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insight.

CHANGE

Letter from the Editor-in-Chief

Welcome to the 18th issue of insight!

Our topic for this issue is partly inspired by trends in current events and partly inspired by my indecision when choosing a topic. At first, my plan was that the magazine would be retrospective in style to celebrate the School of Economics' 10th anniversary. Instead, I was pleasantly surprised at the amount that students wanted to write about the future and how the world is changing day by day. It makes sense, that we as students imagine the future rather than look back at the past. The future is bright and exciting, and is something that we can change for the better.

And as change is inevitable within economics, it is also a part of the insight legacy as I pass the reins of this magazine on to the next team. A special thank you to the fourth years on our team, Paulina, Daniel, Mahdi, Jonathan and Oliver, for taking the time out of their dissertations to work on this magazine.

As ever, many thanks to the writers, editors and the School of Economics for bringing this magazine to life.

All the best,

Flora Mao
April 2019

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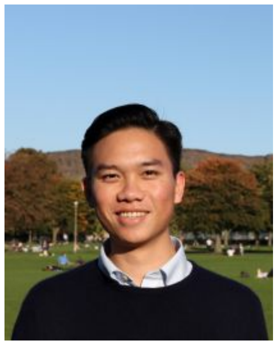

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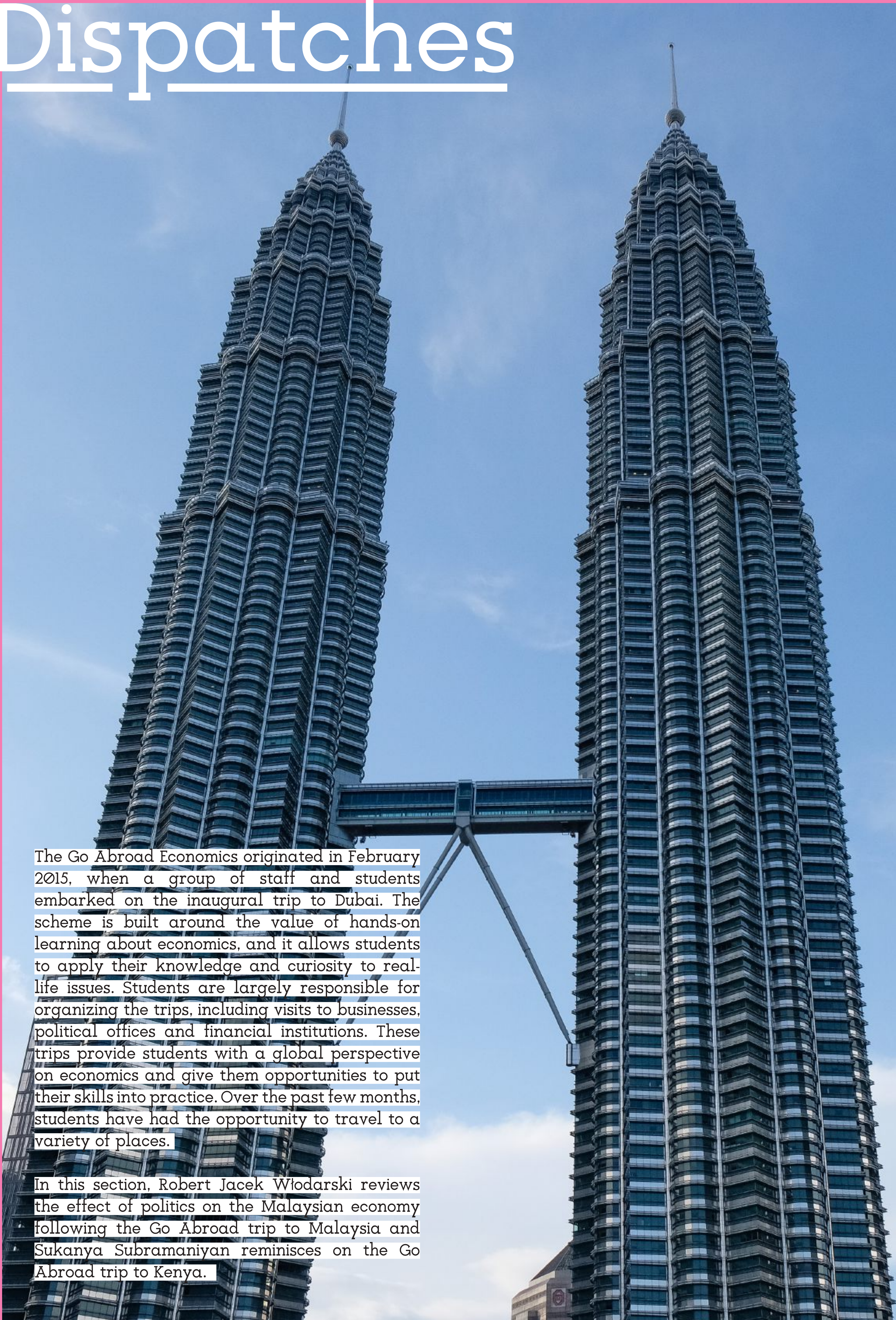


The Go Abroad Economics originated in February 2015, when a group of staff and students embarked on the inaugural trip to Dubai. The scheme is built around the value of hands-on learning about economics, and it allows students to apply their knowledge and curiosity to real-life issues. Students are largely responsible for organizing the trips, including visits to businesses, political offices and financial institutions. These trips provide students with a global perspective on economics and give them opportunities to put their skills into practice. Over the past few months, students have had the opportunity to travel to a variety of places.

In this section, Robert Jacek Włodarski reviews the effect of politics on the Malaysian economy following the Go Abroad trip to Malaysia and Sukanya Subramaniyan reminisces on the Go Abroad trip to Kenya.

Malaysia
A Boon or a Bane

Robert Jacek Włodarski reviews Malaysian politics and economy following the Go Abroad Economics Trip in January 2019.

Malaysia's recent history holds both development and optimism. The country has developed steadily since the 1997 Asian Financial Crisis, and unlike other tiger cub economies, has spoilt investors with political, financial and social stability. The multi-ethnic society has been at peace since the outbreak of Sino-Malay violence in 1969. The federation is also unique in its optimism. In 1991, PM Mahathir Mohamad introduced Wawasan 2020 (Vision 2020) – an ambitious plan for Malaysia to attain high-income country status by 2020.

Despite all the setbacks, optimism about Malaysia's future is everywhere.

However, the picture is not always bright. Political stability is accompanied by 60 years of corrupt de-facto one-party rule - the Malay UMNO party dominated the political system until 2018. Infamous for 1MDB - the largest corruption scandal in Malaysian history, UMNO rule brought little peace to the media, NGOs and activists unsupportive of the government. Economic development was paid for by rising inequality and high environmental costs of palm oil production, a source of conflict between the EU and Malaysia. The population, a mixture of Malay, Indian and Chinese ethnicities, is still largely divided and the politicians still cynically exploit it.

However, Malaysia appears to be moving in a positive direction. Najib Razak's 2018 failed re-election campaign ended UMNO's political domination and the new coalition government, headed by 91-year-old Mahathir Mohamad, has promised to liberalise the nation's media, economy and government. According to World Bank projections, the state will become a high-income country around 2024.

The Bright Side

Malaysian optimism is unique. Mr. Calvin, our tour guide, was unboundedly enthusiastic and proud of his country's development, despite how negative changes in the market had affected him. And he has reason to be optimistic. Malaysia is finally an internationally recognised state with a healthy economy. Its expanding international trade, strong financial markets and political stability make it stand out among other countries in the region.

Malaysia benefits from robust trade relations with other ASEAN members, China and the US. It's a major exporter of palm oil to countries like India, China and the EU, according to Balu Nambiappan, Director of Economic and Industrial Division of the Malaysian Palm Oil Board. The country is also seeking to increase trade value and develop genetic engineering of its palm oil. MPOB actively works with cosmetics, food and pharmaceutical industries in order to develop more applications for Malaysia's flagship commodity. Uses of palm oil are definitely, wide; Nambiappan claims it could even be used to produce Viagra.

Similarly, Malaysia actively seeks to expand into new markets, such as aircraft production and other high-tech businesses, as explained by Shamsul Kamar Abu Samah, head of National Aerospace Industry Coordinating Office, during our visit to the Ministry of International Trade and Industry. The country hopes to use its financial stability and healthy business environment to attract large aerospace companies like Boeing. Hopefully, key trade deals, such as with the European Union, will be just a matter of time, according Fraziali bin Ismail, Bank Negara's Director of Monetary Policy's Economic Department.

Also, Malaysia's financial markets are thriving, as regulations are being actively updated to prevent fraud. The new government is working to reduce rampant corruption, through a new Procurement Act that will implement a new VAT system, and to develop fiscal responsibility via an incoming Fiscal Responsibility Act, as explained by Tony Pua, MP and Political Secretary of Minister of Finance. Bank Negara, Malaysia's Central Bank, has been renowned for using unconventional policies and extensive powers to stabilise their small open economy. The institution has supported government reforms to consolidate the financial markets that have served the country's steady development. “Financial and insurance companies need to be strong enough to play with the big boys”, Fraziali bin Ismail said as justification for the interventionism during our Q&A session. Arguably, this belief has been successful since Malaysia's healthy finances are supported by strong private institutions such as Maybank, 4th largest bank in Asia and the world's leader in Islamic banking. Following our visit to Maybank, Bank Negara and the Finance Ministry, it was obvious that Malaysia has harnessed its financial prowess since the 1997 Asian Financial Crisis.

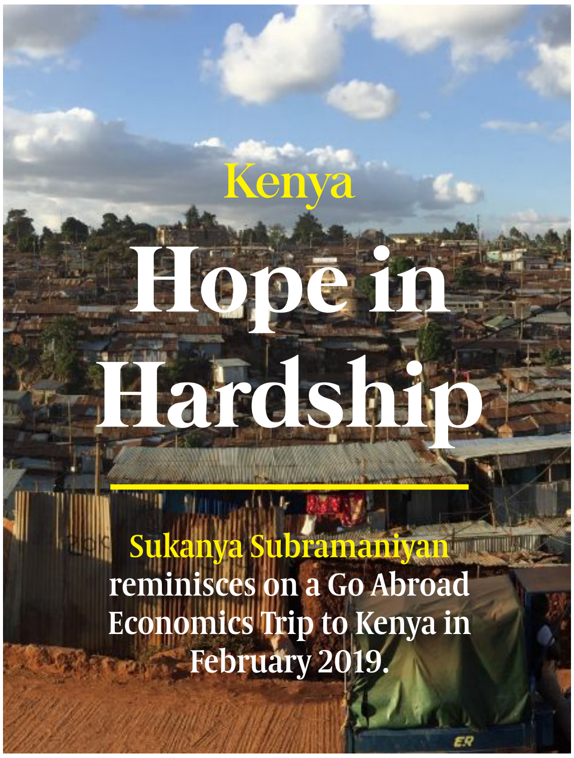
Similarly, Malaysian political dynamics offers reason to be optimistic. The country has been infamous for the corruption and intimidation of independent media, such as Malaysiakini, an online political news portal, which was one of our visits. PM Mahathir Mohamad's new administration aims to weaken party-ownership of the media by repealing policy like the Sedition Act that limits press freedom, according Malaysiakini's Editor-In-Chief Steven Gan. Furthermore, the new government has separated the Anti-Corruption board from the government, in hopes of improving the independence of the board's actions. This legal check does not have to answer to the PM anymore, according to Ali Salman, CEO of liberal think-tank IDEAS. Finally, as Mr. Pua said, the country is undergoing a nationwide internal audit within its civil service and government-linked enterprises. This has been very successful as authorities are already pursuing corruption charges against the former PM Najib Razak for the infamous 1MDB scandal.

The Flip Side

However, international trade prospects look gloomy, as most of Malaysia's trade talks have progressed slowly. The EU has been concerned about procurement laws, AML measures, the ecological footprint of palm oil production and the state interventionism in the financial sector, as we learnt from the meetings at IDEAS and the EU Delegation to Kuala Lumpur. This has waylaid negotiations as Malaysia does not want to hamper palm oil production. According to Mr Nambiappan, the EU is especially harsh in this field due to lobbying by European vegetable oil producers. Importantly, the American-Malaysian trade is likely to suffer due to Donald Trump's trade and diplomatic wars.

Similarly, economic inequality within Malaysia and the environmental costs of rapid development cannot be left unnoticed. While travelling outside the capital on our trip to Malacca, in West Malaysia, we noticed how the infrastructure was modern and reliable and how the environment always felt safe. However there are still poor and underdeveloped areas of the nation that must be addressed. During our visit to the World Bank Group Development Research Hub, Director Firas Raad stressed that while Malaysia pursues Wawasan 2020, they have neglected to investment in human capital. Poverty and instability are prevalent in East Malaysia and some urban areas still contain highly impoverished areas as well. Additionally, Malaysia still pays the environmental price for its development. While it allows the palm oil industry to self-regulate, the EU, and especially France, don't believe it matches their environmental standards, Balu Nambiappan complained.

Yet, despite all the setbacks, optimism about Malaysia's future is everywhere. No matter where we went, everyone truly believed that the future is bright. Compared to the Scottish winter, Malaysia, being both warmer than Edinburgh and more optimistic, was truly refreshing.



Kenya

Hope in Hardship

Sukanya Subramaniyan reminisces on a Go Abroad Economics Trip to Kenya in February 2019.

This February, a team of 16 students and four staff members with a passion for discovery journeyed to Kenya for seven days. Armed with prior research, a mercurial itinerary and bodies that sought respite from Edinburgh's chill, we were thrilled by this opportunity to gain greater insight into Kenya's economic performance, political systems and cultural repertoire. Our trip began in Nairobi, a city made of disparate worlds. With metropolitan districts filled with half-finished high-rise structures, affluent residential neighbourhoods like Karen, the overcrowded slums of Kibera, and the Nairobi National Park with a 300-mile railroad cutting right through, Nairobi was nothing short of excitement and adventure.

An Optimistic Future

The Kenyan economy is one of the fastest growing economies in Sub-Saharan Africa, with a 2018 growth rate of 5.7 percent. However, since over 25 percent of GDP is accounted for by the agricultural sector, 2017's drought brought a significant slowdown in economic activity. With recovery underway, a relatively stable macroeconomic environment, and a narrowing of the current account deficit, the current macro picture of the Kenyan economy seems almost 'too rosy,' with questions still to be answered. Why are over 35 percent of Kenyans still living below the poverty line? Is the government doing enough to combat the corruption plaguing the economy? Is Vision 2030, a development aim to 'transform Kenya into a newly industrializing, middle-income country that can provide a high quality of life to all its citizens by 2030', attainable?

Visiting the World Bank gave us a deeper understanding of the recent economic developments in Kenya. We met with three Chief Economists who candidly explained their role in providing policy recommendations to the Kenyan government. They stressed the need for fiscal consolidation and a rebalancing between development and recurrent expenditures; if the Big Four – President Kenyatta's ambitious development agenda in pursuit of better housing, health, manufacturing and food security – are to be realised, the burden of fiscal consolidation cannot be shouldered primarily by development spending. The World Bank has criticised the interest rate cap and has advised against it since lending to private sector (and SME's) has been declining, which is giving rise to more expensive borrowing. As students of macroeconomics, it was intriguing to learn how credit access and debt ratios critically affected the Kenyan economy.

In Nairobi, signs of M-PESA flashed everywhere, from coffee shops to stalls in the slums

The popularity of mobile wallets caught our attention early on. During our initial research, we discovered that the scope of mobile technology has expanded to include loan provision, information services and quality control. In Nairobi, signs of M-PESA (the local mobile money transfer service) flashed everywhere, from coffee shops to stalls in the slums. We met with Kopo Kopo, a fintech company that enables mobile payment platforms for small and medium businesses in Kenya, to learn more about the future of mobile banking. Having worked with Safaricom, the biggest telecom firm controlling over 64 percent of the Kenyan market, Kopo Kopo prides itself on its dedication to refocus on SMEs and to help them leverage mobile payments. Dennis Ondeng, the Chief Technology Officer, emphatically stated "mobile money is the future", and believes M-PESA will take over the rest of Sub-Saharan Africa, and possibly the Middle East.

An Issue of Trust

In 2010, Kenya passed a new constitution introducing a devolved county government. Devolution has been significant to the transformation of the governance system of Kenya, leading to higher public service delivery at local levels. When visiting the International Society for Pharma-economics and Outcomes Research (ISPOR) Kenya Chapter, we discussed the details of the Nairobi health sector with clinicians, university professors and retired civil servants. We found that healthcare, being a primarily devolved function, is managed by each of the 47 counties. While levels 1, 2 and 3 (dispensaries and health centres) were covered by the central government, levels 4, 5 and 6 (including specialized services and national hospitals) were not. Free maternal health is one factor that is improving, with free insurance being provided to expectant mothers. However, it was evident that devolution created stark disparities between regions, particularly those lacking quality road infrastructure. Our meeting with a WHO official at the United Nations brought to light further issues overshadowing Kenya's healthcare sector such as the misappropriation of devolved funds, stockouts and corrupt private consultants.

Throughout the trip one question kept coming up: "what about corruption?" To this we received a multitude of responses: some forthright, a few evasive and one in particular was condemning. President Kenyatta's 'Big Four' agenda has been under the spotlight for the last few years, as he seeks to conquer all of the nation's maladies before his term ends. His war on corruption has also taken centre stage, and he is often questioned about it. Our pre-trip research uncovered a glut of Chinese investments in Kenya. One example is the $3.3bn Chinese funded, Nairobi-Mombasa railway, which is said to be mired in corruption with its lack of transparency and overvalued price for its 'advertised improvement of speed'. Political leaders seem impervious to justice, and corrupt offenders are given the statutory right to pay fines to avoid imprisonment. The Norwegian Embassy admitted that the corruption scourge was a challenge to be tackled with the creation of reliable institutions.

When meeting with KIPPRA, a government-funded policy think tank, we received a comprehensive landscape of their economic, public and foreign policy research. With 70 percent of their funds coming from the state, we questioned whether they rebuked

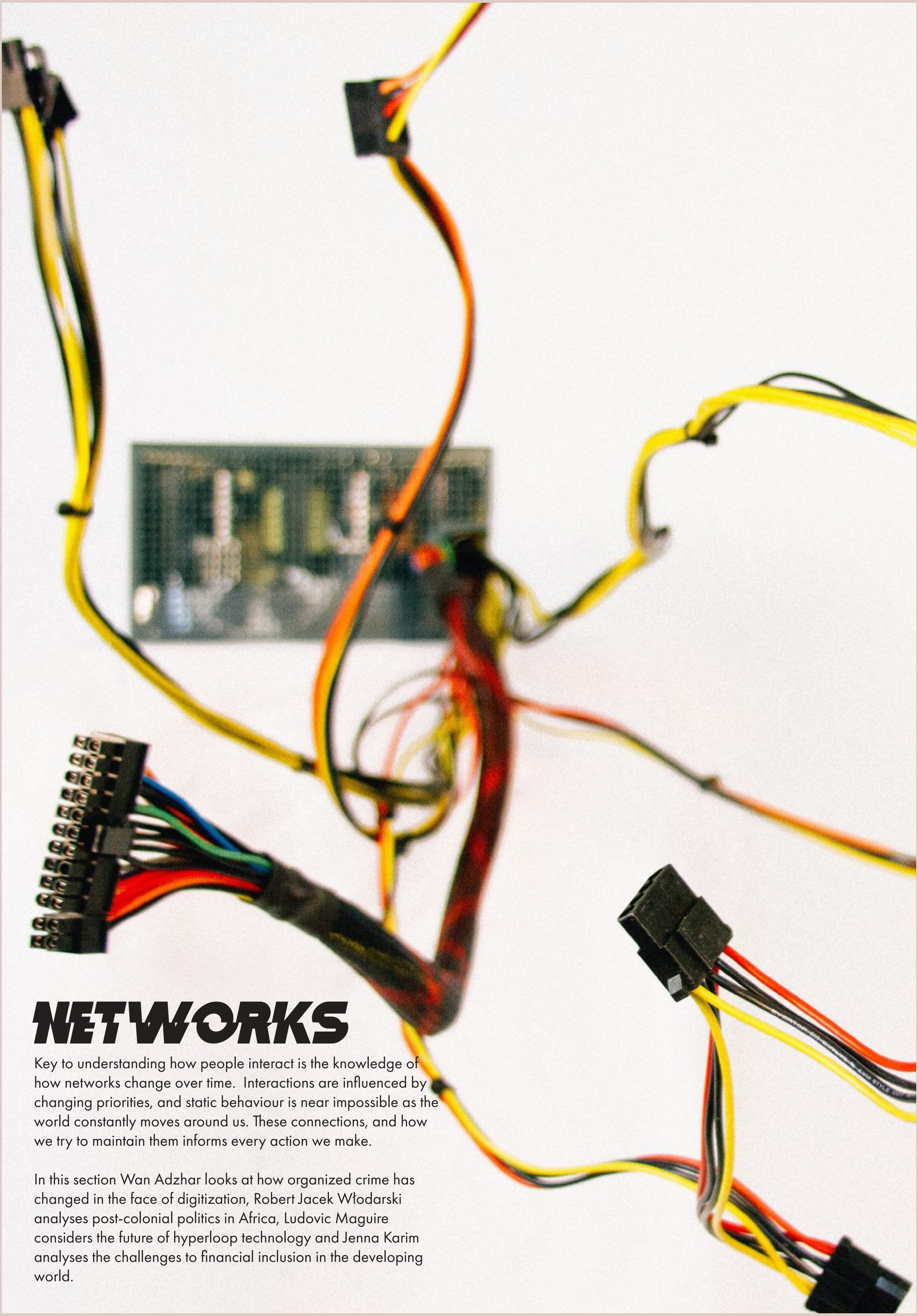
any policy actions of the government or presented policy recommendations that the Kenyan government turned a blind eye on, but we secured no tangible response. To corruption, they acknowledged 'we're doing what we can', without elaborating on specific measures. While most white collar-crimes go unpunished, the legal system leaves the poor with the short end of the stick. Our visit to Kamae Girls Borstal Institution showed us how young girls aged 15 to 18 are often prosecuted for petty crimes, caught in the cycle of poverty and unable to bribe their way out. The morning was filled with stories, laughter and some tears, but echoes of their hopeful voices weighed heavily on our minds even days after.

Beauty in Brokenness

Our trip was peppered with cultural highlights and wildlife sightings. We relished Eritrean cuisine and delicious Indian curries. We greatly enjoyed the Bomas Village dances with its varied percussion, a local jazz night at K1 Klubhouse, and celebrated the birthdays of three of our trip participants. On the weekend, we travelled to David Sheldrick's Elephant Orphanage, Nairobi National Park, Lake Naivasha, Crescent Island and Hell's Gate National Park, where we befriended a pair of lions, gazed across the Great Rift Valley, walked amongst zebras and wildebeests and more.

Without a shadow of a doubt, our most insightful visit was with Mirror of Hope, an organization that fundraises to provide education for children living in the slums of Kibera. Kibera, situated in Nairobi, is home to nearly 1 million people squeezed into 2.5 square kilometres. We visited the overcrowded homes of the children and met their families. We asked them about their lives: the accessibility of medicines, the cost of rent and other amenities, their hopes and aspirations. We all returned with different stories telling the same theme – perseverance through unimaginable odds. A diabetic woman had to purchase free medicines that were worth her monthly rent because of corrupt consulting physicians that stock their private dispensaries for profit. Young girls went through unplanned pregnancies and struggled to keep up with their academic ambitions. Disabilities were an indication of disgrace within the society, and children suffering from them were shunned. The contrast between capital and country was incomparable; locals knew nothing of the Big Four or Vision 2030.

Our time in Kenya, although fleeting, has left us with memorable stories, lasting ties of camaraderie and the chance to tangibly explore how economic choices affects government systems, businesses and ordinary people. With over 15 nationalities amongst our 20 member-crew, we learnt so much from one other and from the vibrant culture of Nairobi. It was truly an experience like no other.



NETWORKS

Key to understanding how people interact is the knowledge of how networks change over time. Interactions are influenced by changing priorities, and static behaviour is near impossible as the world constantly moves around us. These connections, and how we try to maintain them informs every action we make.

In this section Wan Adzhar looks at how organized crime has changed in the face of digitization, Robert Jacek Włodarski analyses post-colonial politics in Africa, Ludovic Maguire considers the future of hyperloop technology and Jenna Karim analyses the challenges to financial inclusion in the developing world.

Networks

A Game of Shadows

Robert Jacek Włodarski uses game theory to analyse Africa's post-colonial politics, drawing inspiration from He-Who-Must-Not-Be-Named.

Rwanda is a modern success story. In 1994, cruel genocides ravaged the country, resulting in almost 1 million people dead and 2 million displaced. Remarkably, Paul Kagame's coup d'état gave hope to the Sub-Saharan population. At about 8% for the past 20 years, it has grown faster than any other African nation. Furthermore, the country enjoys a progressive parliamentary democracy, respecting rights of religious, sexual and national minorities. Yet Kagame's 25-year-old regime is still known for human rights violations, especially freedom of speech. Rwanda's history, as well as most of post-colonial Africa, tells of the continuous game played in the shadows between sovereigns and citizens.

The Game is On

In "The Constitutional Dilemma of Economic Liberty", Weingast models a country's political dilemma as a sequential game with 3 players, namely the sovereign, the majority and the minority. Initially, the sovereign decides between upholding or transgressing the rights of the groups, followed by the majority and minority deciding between supporting or rejecting the leader.

Consider the game in the world of Harry Potter. Voldemort and his Death-Eaters seek to reign over wizards, consisting of pure-bloods and Muggle-borns. Due to political ideology, the two groups are not on good terms. Suppose that Voldemort desires to sway pure-bloods to his side in the quest of world domination. Given that Muggle-borns will never support him, the dark lord's strategy is divide-et-impera - prevent both groups from uniting to overthrow his evil reign.

A country without political force sufficiently strong to gain control suffers a Hobbesian "natural state" of chaos. No political group is sufficiently influential in incentivising a majority of population to support them. From another perspective, citizens fail to coordinate on choosing desired parties and leaders, hence the disequilibria. These often stem from unstable electorate systems, civil wars, terrorism or foreign intervention. Examples include the 1994 Rwandan genocide, the 2013 South Sudanese civil war and 2003 Second Congo War. In all three cases, the central government or potential sovereigns are incapable of consolidating power. Thus, with no one to uphold the rule of law, 'each man does as he sees fit'.

Enemies in Equilibrium

However, suppose that Lord Voldemort, capitalising on the distrust between pure-bloods and Muggle-borns, promises to legalise Muggle-hunting for pure-bloods. In response, pure-bloods shall support Voldemort in his evil plot since they derive utility from magic cleansing. Thus, he reigns over the world by oppressing the Muggle-borns and favouring the pure-bloods.

Likewise, a sovereign may gain political support and remain in power by transgressing against some social groups while rewarding others – an asymmetric equilibrium. A leader knows that groups he favours will support him and vice-versa. If the favoured group is more powerful than the oppressed group, he will be supported. Consequently, by backward induction, he will favour the majority and oppress the minority. In the second stage, since the majority do better by supporting the leader, the leader remains in power -, at the expense of the minority. As a result, citizens are unable to coordinate in deposing an autocratic leader.

Examples of asymmetric equilibria abound. Rwanda has been a multi-party democratic state post-2001, yet clearly Kagame holds all the cards. 25 years ago, Hutus persecuted the Tutsis. Today, conservative Hutus are oppressed while Tutsis are relatively prosperous. This reversal of fortunes is not coincidental – Kagame is backed by Tutsis and those benefitting from his stable, technocratic and progressive state. Under his reign, 2 million Hutus have been displaced. Similar cases include Fattah el-Sisi's Egypt and Yoweri Museveni's Uganda.

Coordination and Cooperation

Imagine wizards know miscoordination fulfils Voldemort's nasty plans. Thus, they will cooperate in creating strong institutions - the Ministry of Magic to coordinate social relations in the wizarding world, Aurors to police the dark arts and Hogwarts to educate the future generations. The wizarding world will enjoy the self-enforcing liberty equilibrium.

Similarly, some African countries enjoy stability and protection of human rights. If Paul Kagame does not seek re-election, if racial conflicts are avoided, if Rwandans coordinate on electing a democratic leader, Rwanda will transition into the self-enforcing liberty equilibrium, armed with crucial checks and balances. Without foreign invasion, economic crises or natural disaster, this equilibrium will be sustained in the long-run. Sadly, few examples of stable African states exist. While Botswana, South Africa, Mauritius, Senegal and Benin fare well in terms of the democracy index, their long-run stability is as yet untested.

The sovereign-citizen game is neither inescapable nor inexorable. Citizens can coordinate to avoid exploitation and chaos - this requires communication and understanding to form stable coalitions. Policymakers can prevent asymmetric equilibria by restricting a sovereign's strategy set through checks and balances as well as strong, independent institutions. All in all, there is no fated political outcome – every equilibrium can change if players are willing to cooperate.

Traditional Crime in the Digital Age

Wan Adzhar explores how developments in modern technological infrastructure have revolutionized organized crime and illicit trade, and their subsequent economic costs.

Digital payment systems and financial services have revolutionized trade by enabling businesses of all sizes to conduct trade internationally. The Wilson Center, an American think-tank, predicts the widespread adoption and use of digital financial services could boost the GDP of all emerging economies by 6%, or approximately $ 3.7trn by 2025.

Despite the utility that this development yields, a host of problems has emerged from the increasing digitization of the global financial system. Criminal entities have demonstrated obstinate ingenuity in their attempts to exploit legal loopholes and circumvent international protocols by utilising new developments in modern technological infrastructure.

Crypto-markets

One such problem is the advent of anonymous virtual currencies or crypto-markets, which can enable criminal activity. These are online marketplaces that are part of the Dark Web, an 'internet within the internet' of mainly anonymous sites including criminal markets and forums. Utilizing encryption technology, they ensure online anonymity by routing connections through servers around the world which makes it harder to track. Funnily enough, these websites share many structural features with popular marketplaces such as Amazon and eBay, including listings of products for sale and buyer reviews of products.

An example of such a platform is the Silk Road, arguably the first dark market on the web. In 2011, Ross Ulbricht created a digital platform that connected suppliers of illegal drugs to potential buyers. In the past, when someone wanted to purchase drugs online, it would be unfathomable to send money directly to the supplier. Drug peddling lacked a trustworthy marketplace, a problem that the Silk Road solved by providing an escrow service, where the website would withhold payment until the customer confirmed that they had received their orders before releasing payment to the supplier. Payment was exclusively sent in bitcoin rather than fiat currency, adding an additional degree of anonymity and shielded buyers from culpability.

While the FBI eventually arrested Ulbricht in 2014, more dark markets have emerged over the years, selling a wider range of items such as firearms, exotic animals and even humans. Partial credit for this modern epidemic of cybercrime lies with virtual currencies for sustaining the transfer of capital. However, the Wilson Center states such proliferation can be more generally attributed to developments in the digital infrastructure and Information and Communication Technologies (ICT) necessary for these crimes. It is a three-legged stool of illicit activity: 'it allowed for the storage of illicit goods and services, provided the utility of financial vehicles to allow for the exchange of goods and services, and developed techniques to successfully transport the illicit goods and services around the world.' Ultimately, these features made supply chains more complex and international, increasing vulnerabilities for exploitation.

The Rise of Transnational Crime

It is no surprise then that Transnational Crime Organizations (TCOs) have capitalized on these developments. The distinction is that TCOs use ICT as a tool, instead of a source of opportunity. TCOs take advantage of both the lack of international boundaries and the speed and convenience of modern communication and information exchange. Dr. Sitterle from the Georgia Tech Research Institute has observed that modern communication technologies are widely available for public purchase, and the expertise required to set-up and maintain such networks is either already a part of or readily available to TCOs and other threat organizations, such as terrorist cells. For example, TCOs use methods ranging from disposable cellular phones to coded exchanges in online forums to facilitate local and transnational communication. Ultimately, the global nature of finance and transportation in conjunction with ICT enables TCOs to operate transnationally while maintaining a physical presence in locations favorable to their operations and existence.

This is especially interesting when considering the consumer-side of illegal trade and how operations pertaining forgery and counterfeiting have developed. John Reiners from analysis firm Oxford Economics suggests that counterfeit products, such as cigarettes, alcoholic drinks and medicines often offer strong financial incentives for consumers to avoid legitimate vendors. This is no surprise, as these substances are often cheaper than their legal and heavily taxed counterparts. These illicit products often fail to comply with health and safety standards, posing a serious threat to public wellbeing, and exacerbating potential criminal activity. This points to a worrying trend of buyers prioritizing the lowest prices, instead of the legitimacy of goods.

The Dark Web poses a dangerous threat to by distorting markets, as increasing numbers of vendors pursue the siren call of cybercrime participation. This is nothing new, especially when it can be carried out from the comfort of your own home, rather than haggling for goods in some dark, dangerous alley.

The Hype you Can't Keep up With

RUNNER-UP FOR THE INSIGHT WRITING PRIZE

Ludovic Maguire discusses whether Hyperloop has the potential to change how we travel.

By suspending cars on electromagnetic repulsion beds and propelling them through a vacuum tube, Robert H. Goddard's plan boasted a proposed travel time from Boston to New York in 12 minutes. The year was 1904, and the title of his university homework assignment was 'Travelling in 1950.' He is one of dozens of scientists, inventors and sci-fi writers to have hypothesised such a mode of transport over the last two centuries, but it wasn't until this decade, that there were attempts to make it a reality. In 2013, entrepreneur Elon Musk publishes a paper titled 'Hyperloop Alpha,' envisioning a long tube with a partial vacuum (about 0.1% of regular air), in which carriages holding approximately 50 passengers are propelled by electromagnets (like a Maglev) to reach speeds of up to 760mph. Just as impressive are his costs: building an LA to San Francisco line for only $8bn USD, with rides costing only $20 USD (£15) per ticket. The calculations are stunning, but have raised many eyebrows and has sparked criticism from around the world. If Hyperloop is going to be the future of transport, then it's going to have to address a few big questions.

The Need for Speed

Demand for travel in the UK is looking to push the limits of current infrastructure. Economic analysis by HYPED, Edinburgh University's own Hyperloop society, assembles a rich picture of the future of transport in the UK. Increasing population and clustering businesses in cities means that people are traveling more; travel demand has risen 20% over the past two decades, and doesn't seem to be easing up. Due to public disapproval for airport expansions, UK airports are already operating near full capacity. When compounded with an expected international shortage of pilots, we will likely be looking away from the sky for national travel. As a result, we are increasingly dependent on railways, with Network Rail estimating a 40 percent increase in the number of rail passengers by 2040.

The need to cater for the increasing demand is clear, but this also must be coupled with efficient and fast travel. By reducing time lost due to travelling and allowing people to commute further, new high-speed projects could be one way to help Britain's productivity problems. At a projected £56bn, the government's High Speed 2, a high-speed rail connecting Leeds, Manchester and Birmingham to London, doesn't look like a cheap solution. Theoretically, Hyperloop could deliver where trains do not; a 40-minute train ride from Edinburgh to London equals UK's average commuting time, the capacity constraints on travel are lifted and, if Musk's estimations are right, it's the cheaper option.

There is an environmental argument, too. The battle for local governments to reduce dangerous levels of air pollution plagues Britain, where over 40 towns and cities exceeding the World Health Organisation's standards. Some cities, like London, have introduced Low Emission Zones to curb the side effects of traffic. Moreover, the race is on to decrease global carbon emissions and minimise the effects of climate change. By shifting travel away from cars and airplanes, Hyperloop could alleviate both of these problems. If Musk's dream comes true, Hyperloop could be entirely self-powered by fitting the top of the tube with solar panels.

While the technology's ability to solve our transport problems is currently a mere aspiration, the need for a cheaper and cleaner infrastructure has created a Hyperloop-shaped hole in Britain's heart. Making it a reality, however, is always the hard part.

In the Way

'Whoever's is the soil, it is theirs all the way to Heaven and all the way to Hell' is an actual phrase in British and American law that gives you ownership of the space infinitely above and below your land. It's a pretty bad rule - it breaks down when you consider the sphericity of the earth, and it has been subject to a lot of amendments. Regardless, unless the Hyperloop tube is suspended in orbit or buried miles beneath your feet, it's going to apply. On the ground, every infrastructure project needs a lot of bargaining. Every party wants compensation for the use of their land and the disruption, and every town wants a turnoff or station. Musk claims his LA to San Francisco line will cost a mere $8bn USD, while, in comparison, the new high-speed rail between the same two cities cost $77bn. Professor Michael Anderson of UCL Berkeley points out that oil pipelines in the US cost about $6.5mm per mile, are seven times thinner than Hyperloop, and wouldn't be able to change direction nearly as abruptly. As a result, this means that avoiding geographic barriers and difficult property owners will be practically impossible.

In transport infrastructure projects, it is often the unforeseen costs that become the largest. Machinery breakdowns, difficult terrain and government disputes can drive up the price of projects. Bringing in environmental and geological surveyors, managing unions as well as the inevitable swarm of lawyers will too be expensive. What's more, costs of ensuring the safety of the passengers could quickly add up. One of the big costs involved in the $77bn Californian High-Speed Rail was making it earthquake-proof, thermal expansion-proof and fool-proof. Ensuring that a 480-kilometre vacuum can't be tampered with remains a cause for concern. While these are likely manageable obstacles, most believe Musk's price tag is vastly underestimated, and according to Anderson, by at least 10-20 times. Based on these questionable estimates, the dreamy $20 ticket becomes less of a reality and more of an illusion.

The Fast and the Curious

If the external benefits of increased productivity, decreased CO2 emissions and decreased constraints on transport are deemed high enough, there could be a strong case for government assistance in the forms of subsidies, legislation or public-private partnerships. Tunnelling under or suspending over existing public infrastructure may help lessen the property rights nightmare, and added investment could make safety testing more rigorous. However, in the absence of proof that the Hyperloop can work, it is unlikely that risk averse governments like the UK's will be taking any gambles with the technology. This leads us to wonder where the first Hyperloops may spring up.

The United Arab Emirates is being touted as one of the primary contenders to be the first, and they have all the right conditions to make it work. In an authoritarian regime property rights are 'flexible', and with a government looking more to build international reputation for futurism than providing practical transport options for its citizens, such a risky project is ideal. Safety and economic sustainability will be afterthoughts, and government oversight will be unimposing. Early projections of costs claim a price of a mere $20-40mm USD per km, or $3-6bn USD for the entire 150km. If true, this cost is remarkably low, and could perhaps be attributed to the benefits of a flat and largely restless terrain. If financial difficulties arise however and actual costs exceed estimations, the UAE has the financial capacity to mitigate it.

Along for the Ride

The Hyperloop is looking like one of the more promising pieces of technology this century, but don't get too carried away in the enthusiasm. While £15 tickets might have been an initial selling point, more grounded estimates by HYPED suggest a less exciting £100 in the foreseeable future. If you're a Musk fan, then you might also have cause for concern: his involvement in the technology is limited to holding annual competitions and regular tweeting. That said, the entrepreneur's new tunnelling technology as part of Boeing could be a valuable complement to the Hyperloop. Technological obstacles can be overcome, but more fundamental concerns about property rights, financing and safety will have to be addressed before we see anyone commuting from Edinburgh to London for a 9 to 5.

The Silicon Savannah

Jenna Karim explores the changes and challenges to financial inclusion in the developing world, through the lens of the Kenyan money mobile service, M Pesa.

In the Western world, we have been witnessing an unprecedented pace of change in the financial services industry. Blockchain, peer-to-peer lending and robo-advisors have been replacing traditional intermediaries and disrupting long established models, leading to endless capabilities and new ways for us to manage our money. For lower income countries, however, the rise of Fintech has translated into something simpler, yet possibly more empowering. It has allowed sheer access to financial services to those who have been unduly excluded by the sector for decades, and with financial inclusion at the top of the World Bank's agenda, its importance cannot be overstated.

Mobile Money

M Pesa, a Kenyan platform set up by Safaricom in 2007, has been the pioneer of the FinTech revolution in the developing world. The concept is simple. By providing unbanked citizens with a range of banking services – with the sole prerequisite of identification – barriers of physical infrastructure, regulation and competition become nonexistent. The service has transformed the daily lives of millions, allowing individuals to receive remittances, withdraw cash from an agent, save money, and access micro-loans - all from a mobile phone. This transaction value has demonstrated a profound impact on the economy's climbing growth – contributing to and, now, even surpassing growth rates of Kenya's GDP.

Small-scale farmers living in rural areas no longer face wage exploitation, with digital transactions guaranteeing accountability and transparency in payments made to them. Entrepreneurs have seen endless benefits, with credit access and lower transportation costs translating to higher productivity levels. Women have been able to break away from traditional roles and gain financial independence, closing the financial gender gap.

By becoming a substitute for the traditional Hawala system, the mobile money service has also been paramount in curbing corruption. Hawala, an unregulated, honour based method of transferring money, has been historically popular for funding terrorist organisations such as Al-Shabaab, yet the recorded nature of mobile transactions has minimised the prevalence of such illicit flows.

A Replicable Model?

M Pesa has now firmly imprinted itself in the spheres of remittances and commerce in East Africa - so should the model not be an ideal for other emerging economies? That's what Vodafone may have thought when they launched M Pesa in India, Afghanistan, and South Africa. If so, then why were these attempts met with little success?

One could look through the lens of Hausmann and Rodrik's growth diagnostics theory for an answer. The economists propose that developing countries face unique constraints hindering them from growth. Thus, solutions cannot be 'one size fits all' for all countries, and models need to be tailored to a country's specific needs.

India's vastly financially excluded population and mobile phone penetration rates approaching 90% surely make it the perfect environment for another success story. But with a more stringent regulation under the Reserve Bank of India (RBI), M Pesa was termed a banking service rather than a mobile product, spurring many challenges in its takeoff. Citizens are required to set up bank accounts to use the service, which rural populations lack access to, given the pervasive absence of ID documentation. According to the diagnostics tree, the high cost of finance constraint faced by India is a result of bad local finance, due to poor intermediation. The RBI's shoddily designed regulatory framework has restricted individuals from engaging in mobile banking activities, preventing M Pesa from gaining the same traction as Kenya.

With regards to Afghanistan – a war torn country which lacked formal banking infrastructure – there was a desperate need for the mobile money service in 2008. Yet despite relatively high mobile penetration, government failure constraints such as corruption and instability have held the firm back from succeeding. M Pesa agent robberies by the Taliban have been commonplace, causing a widespread lack of reliability and trust in the service, and therefore low adoption rates.

Kenya's 2007 environment favoured the launch of M Pesa. Not only did the firm have a first mover advantage, being the principal mobile money service in an untapped, unregulated market, but it benefitted from a network effect, with 70% of Kenyans having mobile phone access. On top of this, its launch was conveniently timed - it came when the country was in a dire state following election violence, and people desperately needed to send money to each other.

Success in Kenya demonstrated that mobile money has enormous potential in empowering individuals through financial access in developing countries. But for these markets to reap the benefits of financial innovation, strategies cannot be uniform, and need to adapt to the particular constraints faced by countries. Regulatory bodies need to work with Fintech innovators to lower barriers to financial access and maximise their impact.

Sustainability

In considering our future, thought must be given to the sustainability of our practices. Environmental concerns are at the forefront, as we as a society consider the ramification of our behaviour over the past centuries. Is it too late to change? Hopefully not, is the motto as our society begins to shift toward a more sustainable model.

In this section, Sam Weston reviews the growth of socially responsible and sustainable methods in capital management, Dila Yalman walks through the economic effects of veganism in the UK, Maria João Pimenta explains the incompatibility of economic modelling with the health of the planet and Lucy Bell discusses the effect of pollinators on the British economy.

Sustainability

Does it Really Pay to Be Nice?

Sam Weston explores the rising trend of using ESG methodologies amongst capital management, and how responsible investing has shed new light in a greedy world.

The avoidance of sin was an early motivator for responsible investing. Today, a new sect prescribes to its methods: those seeking alpha. Concurrent to, and perhaps buoyed by, this broadening user base, is a rise in popularity for such strategies. Today, 26% of professionally managed assets are invested in funds with a sustainable perspective. The modern manifestation of responsible investing can be divided into three classes: impact, exclusionist and integration. Whilst the first two maintain a primarily moral motivation, the latter aims to incorporate Environmental, Social and Governance (ESG) factors to improve security appraisal. Increased societal awareness regarding business operations, and the subsequent regulation this urges, has created bountiful opportunity for responsible investors.

Drowning Profits

Scenario analysis provides a compelling introduction to the value of ESG indicators. Much like fundamental investing, a macro perspective is central. A thesis is then motivated by potential impacts on business. Synthesizing these components often involves introducing a reactionary third-party, which creates or enhances consequences for the industry. The prevalence and burgeoning influence of government, through regulation, renders it an apt example. Consider the water crisis: it matches the requirements of an environmental scenario. Only a little more initiative is needed to identify the water guzzling copper industry as a bastion of irresponsible business. For Morgan Stanley, however, the money-making insight was the prediction of tightening regulation and the latent repercussions for operations. In this instance, Antofagasta, a Peruvian mining company, provided the opportunity with the planned expansion of its Los Pelambres, mine being the problem and governmental regulation of water usage, the trigger. Conducting ESG driven analysis, equity researchers contrasted local sentiment against poor company water practices. The correct prediction of project delays and the need for a water desalination plant led to lower anticipated earnings. The resultant recommendation to sell would have shielded prescribing investors from a 50% downside over the following year. The concentrated focus of scenario analysis makes it a useful example, albeit a risky one, for many investors.

> Long term, low risk strategies are more welcome in the home of the intelligent ESG investor.

What Goes Around Comes Around

Long term, low risk strategies are more welcome in the home of the intelligent ESG investor. Applying a different perspective, similar assessment of company practices - this time at a higher level - can foreshadow revenue fluctuation. The switch from an environmental to a governance mindset, and management of human capital becomes an obvious consideration. Behind the scenes, executives play an internal balancing act, weighing greater worker efficiency and lower turnover against higher labour costs. For external analysts, cash-flow stability is reflective of a successful strategy. Rarely does a company inadvertently advertise the value of stability better than Ryanair. Bad governance, including poor wages and substandard working conditions prompted large scales strikes, grounding flights and generating losses. Disjoint from traditional business model considerations, a negligent attitude towards workers' rights severely impacted revenues. More important than the immediate effects, the correcting of unsustainable governance policies resulted in fundamental alterations to business. A quick glance at the stock price will show that uncertainty like this is not looked upon fondly.

More subtle links unite good practices with revenue generation. Whole Foods is a name that may be familiar, being a brand that uses visible sustainability to increase customer loyalty and while excusing higher prices. A less expected example comes from Shell. When buying into the Athabasca oil sands in Canada, Shell went to uncommon lengths to compensate the local community. Schools were built, native burial grounds preserved, and fishing spots carefully avoided. The consequent bonds with residents helped accelerate the drilling approval process by more than a year. Reduced time between capital out-flows and revenue – the product of good social practices – visibly improved the internal rate of return.

Responsible Alchemy

The importance of ESG factors is patent but the correct methodology for valuing them, much less so. Talking to Edinburgh's own sustainable investing society, Prosper, the importance of long-term horizons became apparent. The longer duration allows spoils from risk reduction to materialise into cash flows. When it comes to analysis, although more commonly associated with qualitative study, ESG investing can be incorporated into quantitative models. Sycomore Asset Management, for instance, uses an adjusted discount value to quantify diminished volatility.

The study of corporate practices fills an ever-widening hole: the presence of intangible value. Embodying sustainable business principles is a natural reaction to changing societal norms. It therefore provides a competitive edge, an imperviousness to an increasingly activist society. Corporate responsibility is no longer a fringe ideology; it's ingrained in the system.

The Rise of New Plant Based Policies

Dila Yalman discusses the economic consequences behind the plant-based dietary trend that has swept the UK.

Western culture has paved new paths for dietary choices, evidenced by the rise of social media stars and celebrities promoting plant-based meals as the new fad. The rise of plant-based diets, such as veganism, has stemmed from the declining enthusiasm for cheap, hormone-rich meats that have been exposed through environmental campaigns and documentaries. Since the 1950s, industrial agricultural practices have driven the price of meat down, and chicken now costs just £1.63 per kg (2019). In turn, the World Health Organisation has highlighted an exponential rise in meat consumption. However, change is clearly on the horizon. From 2016, the number of people eating a vegan, plant-based diet in the UK, has soared from 500,000 people to 3.5 million in 2018.

Producing some Produce

This paradigm shift has resulted in major economic implications for the UK farming and agricultural industry. Mark Bridgeman, the deputy president of The Country Landowners and Business Association, has expressed concerns for small-scale UK farmers impacted by the expanding vegan market. In 2019, approximately half of UK land is used for meat or dairy production. However, due to the temperamental UK and permanent non-arable nature of 45% of UK's grassland, there is little opportunity to grow natural produce. This means meat and dairy farmers of all success levels can't always switch to growing produce.

Limited to a handful of viable choices, current UK produce farmers can either lower the price of their produce to sell or export more. Increased exportation allows farmers to take advantage of the growing affluence in and demand from foreign markets. OECD Data claims that by 2021, domestic meat demand is expected to fall by 1.5%, therefore decreasing the number of UK meat imports. An improvement in the trade deficit through the creation of UK grown produce could be a suitable alternative to offset this economic deficit, however, this is not always possible. As of 2019, 100% of avocadoes are imported into the UK, stressing the importance of preserving trade relationships alongside the growing demand for the trendy avocado toast. The UK is the fifth largest avocado importer; in 2017, over 380,000 avocadoes were imported. This number is quadruple the avocado imports in 2001. With great reliance on imports of avocadoes and other fresh produce to meet market demand, any meat deficit reduction would be counteracted by the soar in imports.

Where You Come From

Imported substitutes increase availability and accessibility of meat alternatives. The abundance of choices are one of the many reasons why UK consumers are opting for emerging meat alternatives, such as the Beyond Meat burger which uses red beetroot juice to mimic 'bleeding' – similar products are rapidly stocking the shelves of every retail supermarket. According to Future Market, Beyond Meat is one of the many key players of meat substitutes. Currently valued at $550 million, it is also the first publicly traded meat alternative company and is taking the market by storm. Although the value of Beyond Meat is high, it is of little threat to the meat industry; meat substitute market may be worth $6.43 billion USD by 2023, it is insignificant relative to the $7.3 trillion USD meat and poultry market. Nonetheless, meat alternatives have increased in popularity amongst fast food suppliers. Multinationals such as McDonalds' introducing vegan Happy Meals have made headlines for accepting veganism as a mainstream lifestyle choice.

Prices are becoming increasingly competitive as more choices are produced for the market, with meat substitute sales growing by 451% between 2014 and 2018, according to research conducted by Plant Based Foods Association. Food trend analyser, Charles Banks, has expressed that the accessibility of vegan food has had the biggest impact on changing tastes. Homogeneity will spread through the market as veganism "moves towards a more inclusive, mainstream lifestyle choice" – prices will continue to fall and the novelty of eating vegan food out will become normalised, especially for students. Popularisation of veganism amongst students and cosmopolitan cities confirms the vegan average age of 24, evidencing that motivations to improve health aligns with the younger generational priorities.

The change in dietary choices is supported by a clear health incentive. Oxford University researchers have said a balanced vegan diet would save 8.1 million deaths per year, and veganism is proven to cut deaths from heart disease, cancer and strokes. Lifting an enormous burden off the NHS, a staggering £1.2bn in healthcare costs can be saved each year. This funding can be reallocated towards critical care that cannot be easily tackled by a change in diet. With 17% of meat eaters intending to reduce their intake this year, the NHS will face fewer preventable cases, but individuals would have to be self-aware of potential deficiencies which could otherwise flag up new problems.

In 2019, it is clear the rise of veganism has sparked social and governmental policy change. Although an entirely converted population is a long way away, small changes pave new paths for the economy of Britain and the world.

A Wind of Change?

Maria João Pimenta discusses the fundamental incompatibility of infinite growth goals with the health of the planet.

The world has shattered the one-degree Celsius barrier of temperature increase from pre-industrialisation. Record-breaking high winter temperatures are no longer a pleasant reminder of what summer feels like, but rather make for alarming news. The effects of a continuously warmer world combined with changing ecosystems and extreme weather are catastrophic and we are increasingly aware of it. Conversations between governments and conversations on personal consumption show how urgency is building, and consequent changes to policies and lifestyles are underway. Is economics also changing to address these new challenges? 2018 saw Paul Romer and William Nordhaus win the Nobel Prize in Economics for endogenising technological and climate change into neoclassical long-run growth models. Both laureates have taken the in-itself Nobel Prize winning Solow growth model and added their own contributions that very much reflect the malleability of macroeconomics and highlight its evermore importance in global issues. It shows that we are now reacting to what is often called the greatest challenge facing the world - climate change. But is economics willing to let go of growth to tackle this issue?

Unsurprisingly, after two centuries of rapid expansion of the use of fossil fuels in every aspect of modern existence, we live in a world where deep uncertainty about the future affects every economy. From businesses restructuring production and adapting to new realities, to children protesting - not about school but about climate change - it seems the world is waking up. Simultaneously, in economic theory, we are recognising changing realities. The dominant Solow model focuses on long-run growth, yet fails to engage with the main source of this growth – technological change. Romer enlightens the model by making technical change the protagonist rather than an exogeny. Nordhaus' Integrated Assessment Models use the influential Solow method to model pathways of the economy and the climate within which it functions. From the 1990s' heavy focus on business cycles and the short-run, long-run macroeconomics has become the norm. The Nobel Prize shows that the world is watching. But will it be worth the show?

Growth Left, Right and Centre

While these advancements should receive the credit that they deserve, at their core the idea that economies are centred on endless growth without consideration for environmental constraints remains constant. As a result, potentially devastating environmental consequences are left on the side-lines. It is not unusual to find economists commenting on how myopic politicians are. That being said (and mostly being true), economics may also find itself living with a growth myopia. The Solow model is based on growth, and by extension so are Romer and Nordhaus' contributions. Countries' economies are examined with the main criterion of growth, and whilst we examine growth in the long-run, it generally bedims the notion of sustainability.

We continue to see the creation and extension of models based on growth stories and data from countries that grew and matured with abundant fossil fuels and blissful neglect of any consequences. These are models made in another era for another era – one that was not facing the uncertainty generated by a changing climate. How are these models still viable in today's environmentally conscious era? It is perhaps due to countries like India and China, who are set to lead an increasing demand for oil according to OPEC predictions. Are these emerging economies following in the footprints of developed countries?

The most recent IPCC report finds that the two-degree Celsius limit on global temperatures is too high. If we want to avoid irreversible change to the environment, the upper limit should be closer to 1.5 degrees. Climate change mitigation is climbing higher and higher on national, international and supranational agendas. Yet, even if the currently declared goals of the Paris Agreement were implemented by all 174 parties to a T, temperatures will vastly increase by three or four degrees by the end of the century.

Central to economics is the desire to explain growth and ensure its persistence. This question is both central yet mysterious, and no agreement exists as to what the main forces behind growth are. Yet we find ourselves in a world obsessed with growth. That is not to say that growth is unimportant, because it has been and continues to be the main driver of human welfare. However, what if growth is decreasing welfare in ways we cannot yet quantify? A strictly growth-centred approach neglects pertinent factors, such as the climate and its sustainability, that in the long-run affect human

welfare. What is not to say that their negligence may start undercutting the positive effects that growth has on prosperity?

Green GDP as a measure of national accounts remains unmentioned in undergraduate economics courses amongst the abundance of other measures that are taught. We need to acknowledge that we might not actually be growing as much as we think we are once the huge – not just future but also present - costs that climate change can incur are taken into account. Climate change is accountable for a large part of current humanitarian disasters in places from Madagascar, to Haiti. These food crises were linked to droughts and other severe weather conditions. In essence, current growth is standing in the way of development rather than improving it.

Sustaining Growth or Sustainable Growth?

The question that arises is whether incremental changes within economics should be celebrated and encouraged, or whether small tweaks are not enough to tackle climate change head-on. Is it a case of "once growth-centred, forever growth-centred"? If so, we might need radical, transformative change to the discipline, change that can overhaul the foundations of macroeconomics. It starts with the way that economic development is so deeply rooted in growth. It poses an obstacle to sustainable development because policymakers, even taking into account externalities, do not prioritise sustainable development. With the influence the discipline of economics has, it is key that its mind-set surrounding growth changes to flood into other areas such as policymaking and governance.

We might need radical, transformative change to the discipline, change that can overhaul the foundations of macroeconomics

Is there hope that the direction the world is headed will change? Policy developments like the Green New Deal in the United States go miles beyond Roosevelt's New Deal in terms of environmental considerations, but it is unlikely that anything will come to fruition. In our current political landscape, policy needs to show growth outcomes to be popular. For example, while Australian emissions have been on the rise since 2014, the new climate change policy package announced by the Prime Minister, Scott Morrison, fulfils its Paris Agreement targets without "taking a wrecking ball to the economy". Obviously, policymakers seem to exhibit an inherent duty to prioritise growth and as long as this mind-set persists, it will be impossible to converge economic with environmental interests.

It is worth considering a complete decoupling of economic growth from development. This would imply moving to a mind-set where growth doesn't persistently overshadow development, where sustainability can stand in the spotlight and where global initiatives are not hampered by a "what about growth?" retort. This retort may be losing weight as the potential costs of failing to properly address climate change are far greater than any short-term benefits of growth, but this radical idea comes with the difficulty of the normative nature of intergenerational sustainability. How we make decisions today often does not capture the full future costs. How can one capture the full value of future welfare in current economic decisions? Instead we should pursue a world where unsustainable development does not exist because it is a direct contradiction. Hopefully, in this world environmentally sustainable growth is applauded. Without the dash to high-income status, instead the marathon to a high level of development underpinned by environmental sustainability would matter. And with the massive influence that the discipline of economics has on large-scale decisions of development and production, it seems only right that this impact is put to use. Economic theory needs to step up and on a wider level our collective mind-set must change.

Sustainability

The Birds and the Bees

Lucy Bell discusses the implications of dwindling pollinator populations on the British economy.

Did you know that one of the most underrated and crucial natural capital assets in farming is currently on the decline? These busy and under the radar workers are pollinators. According to the Biological Conservation Journal, over 40% of insect species are threatened with extinction, including pollinators. Natural pollinators play an essential role in ecosystems by transferring pollen and fertilising flowers. The UK farming and horticulture sector is dependent on the service for their output of crops. Since the 1960s, seven species of UK bumblebee have shown declining trends. Pollinators that solely forage on grasslands and farmland flowers, known as host plant specialists, are facing the largest reduction. It is now recognised that the agricultural sector, which is heavily reliant on bees for maintenance of crops, is the most damaging cause for bee populations. The intensive agricultural practices adopted by British farmers in recent decades has resulted in a loss of habitat and has prompted a sharp decline of the pollinator population.

It can be very easy to ignore and neglect the importance of pollinators in industry. Natural pollination services are not traded in the market or counted as an asset in financial statements. Nonetheless, pollinators provide significant economic benefit to the UK. In 2007, the UK National Ecosystem Assessment estimated the production value of insect pollination to be at £430 million. This accounts for approximately 8% of the total market value of crop production, a more than modest value in horticulture.

Industry Buzz

With the continuous growth of the human population, the farming industry has been forced to increase output in order to keep up with demand. The use of new industrial agriculture and technology is putting a strain on our ecosystems, including the services of pollinators. Since the 1960s, there has been an increase in demand of 300% for natural pollination services to keep up with consumer demand. However, with the security of natural pollinators under threat, industrial agriculture does not offer a long term sustainable alternative to natural pollination. If demand continues to rise and natural pollinator numbers fall, we can only expect to see an overall increase in food prices. This is due to farmers having the added cost of manual pollination or not being able to produce enough food to meet the demand, both causing upward pressure on prices.

If the supply of natural pollinators is becoming increasingly exhausted, should British agriculturalists look for pollinator substitutes? Fiscally, this seems unlikely as farmers would have to expand their current workforce to meet pollination requirements, with an estimated cost of £1.8 billion per year. In countries such as the USA and Canada, there is a large industry in contracting bee keepers for pollination. However, such practices have yet to materialise in the UK, despite massive losses in the bee population due to parasites and disease. Obviously the depth of dependence on natural pollination services among UK farmers is high. The only way to ensure the sustainability of UK farming in the long run is to improve and sustain natural habitats for pollinators.

Obviously the depth of dependence on natural pollination services among UK farmers is high

New Policies Take Flight

In the last decade the importance and reliance we have on wild pollinators has hit home. Finally, we are starting to see a real change in government policy for pollinators. The most recent report published by the 'Department for Environment Food & Rural Affairs' (DEFRA), is the National Pollinator Strategy: Implementation Plan 2018-2021. This Strategy is clear evidence of governmental policy in creating and sustaining healthy habitats for pollinators.

The Strategy supports the continuation of the £85mm commitment to the 2016 'Countryside Stewardship Scheme.' Under this Scheme, pollinators are one of the four priority groups addressed in the multi-disciplined approach to improve the countryside by 2021. Through the use of monetary benefit, DEFRA is providing wild pollinator and wildlife packages to eligible farms. This financial incentive is encouraging farmers to create and sustain new pollen and nectar rich habitats on their land. There is still a large number of farms not signed on to the scheme, with only 40% of Mid-Tier agreements fully meeting the pre-requisites. This is concerning due to the preponderance of UK farms having wasted field edges that machinery cannot harvest, resulting in an estimated 20% less yield per field. This currently underutilised land would provide ideal space to plant mixed seeds habitats, designed specifically to attract pollinators. One case study shows that planting 8% of land at field edges to create key pollinator rich habitat, resulted in an increase of 35% in crop yields. If we apply this generalised figure to the current amount of crops that rely on natural pollination, we could potentially see a net increase of £241mm worth of crops to our economy each year.

The Pollination Strategy also promotes voluntary action by hosting farming conferences and workshops on the benefits of natural pollination. This has been largely successful, with 434 individuals from across the agricultural sector attending 32 events on pollinators in 2016. DEFRA have also created online resources on good pollinator management such as 'The Bee's Need' website, a comprehensive guide to good pollinator management. This resource successfully provides farmers with the education needed to harness the positive externalities that pollinator species provide. Education is hoped to change behaviour practices in farming and promote overall industry change.

Incentivising Change

DEFRA is also working on additional ways to promote pollinators in the agricultural community by way of increasing funds to farmers who implement pollinator positive practices. A new Payment by Results scheme called 'The Results-Based Agri-environment Payment Scheme' could become the future of agricultural funding. This new monetary payment scheme would allow the government to achieve their pollinator based policy goals by setting specific targets for stakeholders to achieve. Michael Gove, the Secretary of State for 'Environment, Food and Rural Affairs' describes the approach as the future of farm payments. To put the scheme simply, farmers receive money for implementing their own land-management plans to achieve environmental goals: the higher quality of the end results the more they will get paid.

A Payment by Results scheme would incentivise farmers to improve their pollinator rich habitats in order to receive an increased monetary payment. The scheme removes restrictive requirements and allows famers to decide what is best for their farm, creating flexibility. The amount of labour they put in towards pollinator habitats increases the amount of payment they receive. In addition, the extensive monitoring of farmland would allow ecologists to keep track of the pollinator population recovery.

In the last decade, concern for the decline in pollinators has increased, with policy beginning to change. Evidence shows that a world without natural pollination combined with the factor of an increasing population, would lead to serious adverse economic effects with the long run result being environmental degradation and worldwide starvation. In a world full of innovation, growth and technology, we must remember that our most important asset is the natural world. It is our responsibility to look after and sustain the pollination species. Once it is lost, there is no amount of money that can bring it back.

Choice

'Two roads diverged in a wood, and I —
I took the one less traveled by,
And that has made all the difference.' - Robert Frost

In this section, Mahdi Jaffer reviews the surprising effect of increased choice on consumer welfare, Anna McCourt talks about dating apps and the game theory that makes them click, Estee Lu considers how signalling in consumption culture is driven by inconspicuity and Elena Dall'Agnese explores how the financial sector has changed since the 2009 crisis.

Changing the Banking Culture

Elena Dall'Agnese explores the revolution in the financial sector following the 2008 financial crisis.

It's been over a decade since the financial crisis, the collapse that upturned the lives of millions of people. With social, political and statutory effects, experts and amateurs have been analysing its causes ever since. But there's one piece still missing from the puzzle: the banking culture.

Culture Shock

Culture, whether private or public, is the fundamental pillar of every organisation although in finance it may be more akin to a cult. Pre-crisis culture was based on risk-taking – investing clients' money in speculative assets, giving loans to people who could never repay while still believing in the naïve self-healing free market model. According to Qamar Zarman (chief economist and head of BSB insight unit), there are two reasons that will help explain this behaviour: fear and trust.

People in banking were too frightened of not achieving targets, of giving bad news to managers and of the future, resulting in poor short-sighted decisions, and which doomed the system.
The second point is based on the unconditional trust in the system – a system based on greed. It was all about how people behaved when they were not watched.

The bonus culture didn't help either, instead promoting further thoughtless risk-taking behaviour. Finance reached a point where clients weren't the main focus. The main focus became maximising profit, rather than taking care of customers and making the right choice for them. Financial sector employees had distinct obligations that required them to pursue specific profit-related values as a matter of priority.. These values (in particular seeking immediate profits) systematically replaced the value of good risk management. In short: banks lost their way.

As reported by Michael Winston, who worked at Countrywide Bank as Managing Director and Enterprise Chief Leadership Officer during the years preceding the financial crisis, the recruitment programme was looking for people from the bottom quartile: low level schools in difficult financial situations, so they could be certain that employees would do everything they're told to. They were hungrier for money than others and willing to do anything to pursue an admirable career. This social construct had been erected to create trust within the whole sector.

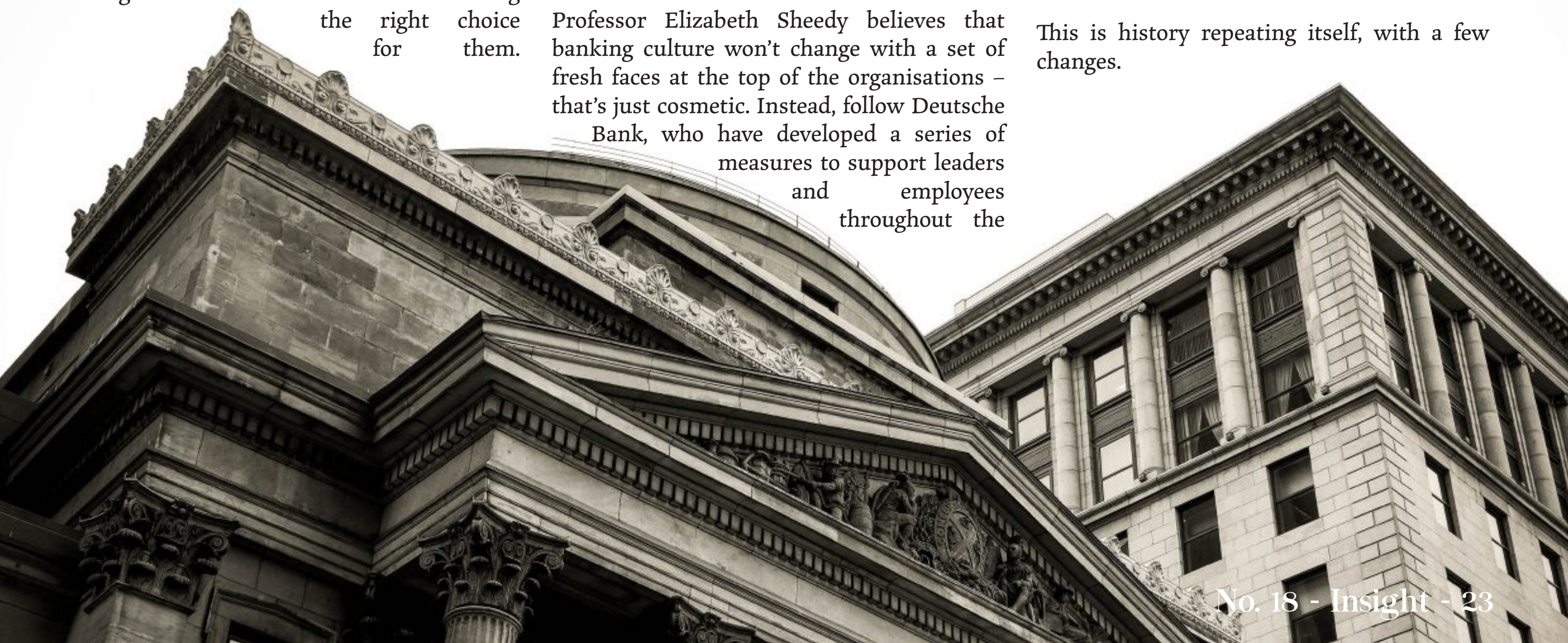
Looking at the banking sector, it's clear that regulation regarding culture and behaviour is a whole new dare. While regulators give speeches about the role of corporate culture in the safety and soundness of the banking industry, many firms decided to start new cultural programmes and internal reorganization. From the selection process, to training and development of talents and concluding with incentives and disincentives, there have been some reform. However, reshaping culture is the role of the CEO and the senior management, their main focus should be their leadership style.

After the Fact

Professor Elizabeth Sheedy believes that banking culture won't change with a set of fresh faces at the top of the organisations – that's just cosmetic. Instead, follow Deutsche Bank, who have developed a series of measures to support leaders and employees throughout the transformation, including coaching, workshops and trainings on how to increase efficiency. But if someone like Bob Diamond, former group chief executive of Barclays plc, still believes that we need to create a safe financial system with economic growth and promotion of jobs through risk taking of bankers on behalf of clients, how do we know we are safe from another crash? The crisis might have had a role in making the existing financial order even more stable, now that businesses are largely upheld by government policies and central banks support. But even then, many people believe banks are still "too big to fail", a belief notably held by the Governor of Bank of England Mark Carney.

Post financial crisis we've witnessed the rise of populist political parties with agendas based on anger, rebellion and protests against elites. They don't take into consideration economic arguments such as cross-border capital flows, exchange rates, credits and the rate of interest applied to loans. In particular, Trump's policies are risky for the American financial market. After the financial crisis the regulation has been implemented though the Dodd-Frank Act in order to avoid another crisis, but this had a price: decline in number of banks. Trump tweeted on November 25, 2017 that "Financial institutions have been devastated and unable to properly serve the public", although they generated a record-level profit of $157bn in 2016 and clearly his assumption was wrong. Deregulation is dangerous and it means walking our ways back to the initial, disastrous situation and disregard any of the positive changes made so far.

This is history repeating itself, with a few changes.



Agonizing in Abundance

Mahdi Jaffer discusses the surprising effect of increased choice on consumer welfare.

Overchoice is defined as a situation where the existence of a broad array of options decreases overall satisfaction. An easy way to visualise this concept is to imagine that you are in the mood for a beer. Suppose you're at a small pub that only serves two common beers, so you simply pick the one that is more aligned to your preferences. Alternatively, imagine you go to a luxurious gastropub which stocks 50 niche beers that you have little experience with and you end up spending time arduously scanning the options. Whilst your chosen beer may be inherently better, you cannot be as confident that your selection is optimum as you could be in the small pub. In economic terms, you are being faced with both higher opportunity cost and search cost. Thus, as the number of options expands, perhaps counterintuitively, the greater availability of options may do more harm than good.

This is especially relevant today. While the internet and globalisation, for example Amazon, Spotify and even Tinder, offer access to an unprecedented number of choices, the disutility from overchoice is likely to become increasingly influential in determining our lifetime optimality conditions. Alvin Toffler predicted the harmful impact of this overload of choices nearly 40 years ago in his book Future Shock. He hypothesised 'Ironically, the people of the future may suffer not from the absence of choice, but from a paralyzing surfeit of it. They may turn out to be the victims of that peculiar super-industrial dilemma: 'Overchoice.''. This idea is explored further in an experiment by Iyengar and Lepper, which examined the effects of choice on happiness. The experiment randomised individuals to either choose from 6 types of chocolate or choose from 30 types. Although the subjects with 30 options initially reported liking the wide range of chocolates, they ended up being more regretful and dissatisfied with their choices than those who only had a choice of 6. Barry Schwartz elaborates on this phenomenon in The Paradox of Choice, highlighting anticipated regret and regret avoidance are some of the most damaging effects of overchoice. Schwartz states 'the more options there are, the more likely one will make a non-optimal choice, and this prospect undermine whatever pleasure one may get from one's actual choice.'

Tempted to Regret?

Such findings are fascinating to economists. The test subjects incurred no pecuniary cost, yet they still experience a net disutility from the requirement of make a choice, and from of the regret from eating chocolate that may not have brought them the most pleasure. At the risk of turning philosophical, this result pertains to a bigger issue, that we as humans have a tendency to fixate on what could have been to determine our satisfaction. It is easy to project one's optimism on a path one fails to take. This is because of the immensely difficulty in disputing such a counterfactual, which is only enhanced as the number of options increases. Studies show that people tend to be risk averse. Therefore, if one chooses to stray from their typical choice, one must accumulate sufficient information to be relatively certain in the decision, which is often great enough a cost to prevent such deviation.

This can be tied to the rampant advertising industry who employ creative ways to convince us that their product above all others will provide the emotional fulfilment sought. Advertising in many ways circumvents the need to amass information to inform our decisions. By associating our perhaps unfeasible desires with their product, one can alleviate the considerable search costs. However, this doesn't mean that advertising reduces the aggregate harm of overchoice. While immediate search costs are reduced, it is highly contestable that these products truly provide such value, which potentially increases the aforementioned disutility associated with disappointment and regret. As the world becomes more interconnected and the number of opportunities increase, we are forced to either endure higher search costs or put our faith in advertisements purposefully trying to mislead.

In contrast to economic literature, which often suggests that choice is positively associated with welfare, this paints a bleak view of choice. Taken to the extreme, overchoice becomes a situation where diners starve in a buffet because they can't make up their minds. Nonetheless, it is important to make a distinction between rationale and irrational emotional responses. Regretting a poor permanent past decision in any context offers little to no value aside from the knowledge to avoid repeating the choice. From a welfare standpoint, it can be considered irrational to regret such decisions as that only adds insult to injury. Should such an attitude be widely adopted, perhaps the range of choice we have available today should intuitively result in a higher aggregate utility. However, it will require a more vigilant and informed consumer to reap such gains.

Choice

Thank You, Next

Anna McCourt uncovers the game theory behind the dating apps we all know and love.

WINNER OF THE INSIGHT WRITING PRIZE

Bonnie and Clyde are pining after each other. Bonnie likes Clyde and Clyde likes Bonnie, but both parties don't know that it's mutual. They have a couple of options: firstly, they could both confess. Secondly, Clyde could confess and risk being rejected by Bonnie or vice versa. Thirdly, they could both stay silent and pine hopelessly after each other forever.

To Commit, or Not

'What is an agony aunt piece doing in an economics magazine?' you may be asking. Funnily enough, the situation outlined above is an application of one of the most famous examples of game theory in economics – the Prisoner's Dilemma. At first glance, the traditional Prisoner's Dilemma may seem separate from the one outlined above, but they both contain the same underlying theme – the Commitment Problem. In the traditional prisoner's dilemma, the prisoners both face an option to follow their own incentives and to rat the other out, or 'commit' to the other and mutually not rat each other out. Most of the time, both prisoners end up following their own self-interest, yet, since they both do so, the pair end up in the worst-case scenario. The same holds true for the above situation. Bonnie and Clyde could either confess their undying love for each other and live happily ever after, or follow their own incentives to stay silent, if the cost of rejection seems too high. Often, both will stay silent, yet again creating the worst situation for the couple.

When looking at the Prisoner's Dilemma, economists try to consider how to solve the Commitment Problem by changing the incentives of the 'prisoners.' Applying this to dating in the past 30 years or so, an interesting case to look at is that of the changed incentives in dating as apps like Tinder have been introduced.

The way in which Tinder, and other similar dating apps, changes the incentives of the Prisoner's Dilemma is to decrease the penalty of being turned down. The founder of Tinder, Sean Rad, told Forbes, 'We've eliminated the fear of rejection… If I approach a stranger at a bar, I'm nervous about being rejected…we get rid of all that.' The sheer number of matches on the dating app can make this rejection seem dulled, lost among a myriad of other swipes. Decreasing this penalty, however, comes at a price.

Too Many Cookies

More recently, there has been more rhetoric surrounding 'The Marriage Supermarket Problem' that has arisen on apps like Tinder. Since there is an uneven male-female ratio on the app and the cost of rejection is lower, men will often try to score a date with as many women as possible, but with the lowest effort possible. Thus, women knowing that they are unlikely to match with men of quality, are not going to participate in the market at all, since. According to a 2018 survey done by We are Flint, there are twice as many men on Tinder than women. This has shown to drive women away from the app, worsening the gender imbalance. Who knew online dating turned out to be a market for lemons?

This Marriage Supermarket Problem could be solved in an economist-like fashion: changing the incentives of the Prisoner's Dilemma again. This has been done by apps like Bumble, where the female has to make the first move, and in no more than 24 hours. This decreases the chances of The Marriage Supermarket Problem taking place, since women have the say in who they talk to. The time limit also encourages women to commit, since it introduces a pressure and an exclusivity to the matches they get. The layout of Bumble intends to narrow down the number of matches to a select few, increasing the chances of repeated interaction between two people. Repeated interaction makes it much more difficult to deflect a potential partner, since bad behaviour now imposes consequences not possible in one-shot interactions. This helps solve the problem Tinder faces by shifting the unfavourable conditions females faced on Tinder, to one more suited to finding a good match without being bombarded by boorish pick-up lines.

The popular saying is this: 'if you want a hook-up, go to Tinder, if you're looking for something more serious, go to Bumble.' And after looking at the game theory behind both of the apps, I would be inclined to agree. Despite them both functioning with similar features, the equilibrium behind Bumble seems to say a gentle 'Love me harder.' Tinder, on the other hand, seems to say a sassy 'Thank you, next.'

Choice

The Rise of Inconspicuous Consumption

Estee Lu explores the interplay between inconspicuous consumption, status and luxury goods.

Tea was first brought to Britain in the 1660s. Initially associated with the bourgeoisie, over time tea slowly transformed into a staple drink of the masses. Quintessentially British, tea is firmly seated at the table of British traditions with colonisation and queueing. As tea evolved from a luxury product into a mainstream good, how could we infer the social status of a tea drinker? It wasn't through the price of the tea, but rather through the manner by which milk and tea are poured into the cup.

Crazily Rich, Now and Then

"Milk first" is a gesture historically associated with the poor. Unable to afford expensive porcelain, the poor often used cheap ceramic teacups with poor thermal resistance. Thus, the poor added milk before pouring in hot tea to help prevent teacups shattering from thermal shock. Even though the difference in quality of china between the rich and poor has narrowed over time, this seemingly innocuous gesture remains as the rich try to preserve this elite culture, which acts as a subtle status identifier. This idea is analogous to the function of inconspicuous consumption as a class differentiator.

Set in Singapore, the movie Crazy Rich Asians raked in $26.5mn over the opening weekend and shows a modern understanding of conspicuous consumption. The flashy movie depicts common fantasies of being rich - haute couture, million-dollar jewels, enormous penthouses, glamorous parties, the wedding of the century, private jets and staycations on private islands. As Eleanor Young highlights in the movie, being rich means being able to address the elites as 'kaki lang', or 'our own people' in the Singaporean Hokkien dialect. While the film illustrates classical conspicuous consumption, it also highlights the main motivation behind the luxury brand chase - to be part of an exclusive class of elites. In The Theory of the Leisure Class, Veblen defines conspicuous consumption as the purchasing of goods that indicate socioeconomic position and while carrying luxury products with blatant brand logos– such as Louis Vuitton, Hermès and Gucci- is equivalent to screaming that the owner is rich. However, as people getting increasingly richer, instead of spending lavishly on explicit materialistic goods, inconspicuous consumption is taking over in achieving the same purpose.

> Instead of extravagance, minimalism forces people to choose what is truly essential to them.

The Aspirational Class

In her book, Elizabeth Currid-Halkett proposes the idea of an aspirational class-a group of individuals defined not by their income bracket, but rather by their cultural capital and consumption choices. Their consumption choices reflect the desire to differentiate themselves, but the goods purchased employ subtle signals observable only to people with the prerequisite knowledge to appreciate their choices. This is the main difference between inconspicuous and conspicuous consumption à la Veblen. For example, Bottega Veneta is a high-end Italian fashion brand that has no obvious logo on its leather bags. These luxury products are well-known within the fashion circle, yet highlight the owners' social status without being flagrant about the branding.

In relation, the aspirational class also embed acquired knowledge beneath their consumption pattern to showcase their wealth of cultural capital. Minimalism, for example, is an obvious cultural product that the aspirational class has adopted. The concept of minimalism boils down to the pursuit of simplicity. Instead of extravagance, minimalism forces people to choose what is truly essential to them. This concept is distinctly accessible to only the aspirational class, who have both the means to learn about it, and the capability to reduce possessions without significantly decreasing their living standards.

Fumio Sasaki's Goodbye, Things: The New Japanese Minimalism notes that, "We eventually get used to the new state where our wishes have been fulfilled. We start taking those things for granted, and there comes a time when we start getting tired of what we have." The poor often try to accumulate as much as they can, while the rich, having the means to choose, can always opt for higher quality and lower quantity. Thus, they can simultaneously consume less and improve their standard of living. Many individuals in the aspirational class dispose of possessions deemed unnecessary to pursue minimalism only to repurchase them later, something only possible for the affluent. Hence, just as extravagance exemplifies conspicuous consumption, minimalism is the trademark of the aspirational class.

With subtle observation, the aspirational class takes pride in exerting remarkable control over their lives, and ability to showcase their wit through referencing current news and engaging in intellectual discourse on any topic. Indeed, wit beyond measure is man's greatest treasure, to quote the Ravenclaw motto. Thus, aspirational class consumption reflects a huge preference for services, education and human capital investment. Gym memberships, Keto diet plans, The Economist subscriptions, social etiquette classes and box seats for orchestra concerts are all forms of inconspicuous consumption. They arise out of the knowledge of what constitutes a healthy and balanced lifestyle, made possible only by the vast financial resources of the aspirational class.

Status Games

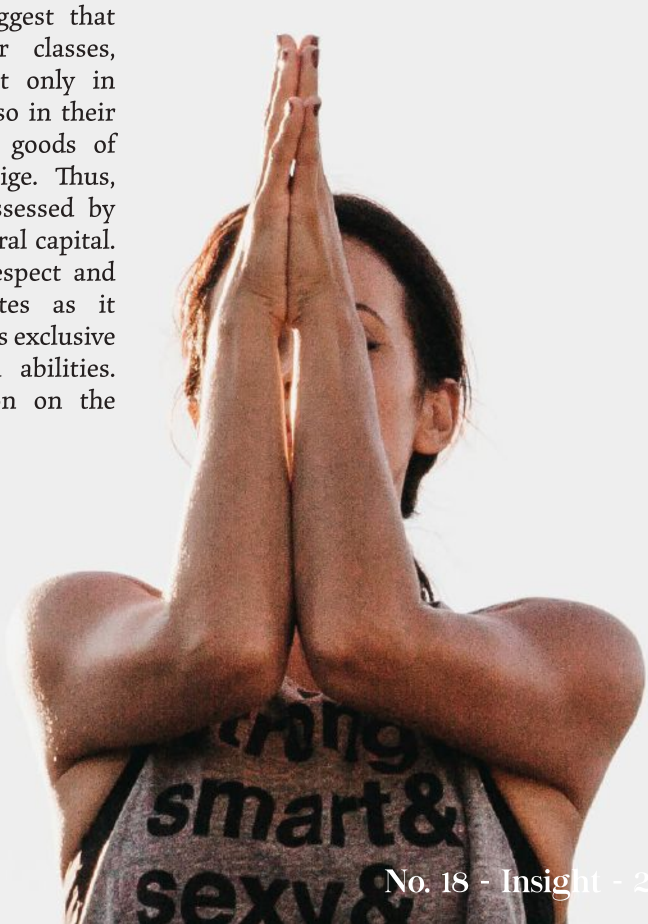
In Running to Keep in the Same Place: Consumer Choice as a Game of Status, Hopkins and Kornienko present conspicuous consumption as a competition. If you assume that all individuals care about their social status, in relatively equal societies competition will arise mainly from lower income brackets. Observing the increase in their peers' incomes can pressure individuals into consuming conspicuously to avoid being left out. This leads to a Prisoner's Dilemma situation, where all players race to the bottom by increasing their conspicuous consumption, when overall they could be better off by not having the race at all.

This insight also applies to inconspicuous consumption, as individuals at the higher income brackets are trying to break away from the materialistic competition equilibrium by putting greater emphasis on inconspicuous goods as a signal of social status. Per Veblen, people aspire to higher status as an end in itself, and they gain psychological satisfaction from being better off than others. However, peer pressure may still operate and cause the game of status to arise in the inconspicuous goods market as well. However, the welfare effects of inconspicuous consumption may differ because inconspicuous consumption in terms of services, education and human-capital investment could produce positive externalities. This can be due to clustering of elites which in turn can boost economic productivity.

Redefining Rich

In The World of Goods: Towards an Anthropology of Consumption, Douglas and Isherwood suggest that when compared to richer classes, the poor are restricted not only in consumption choices, but also in their ability to discern between goods of different quality and prestige. Thus, the discernment ability possessed by the rich indicates their cultural capital. This allows elites to gain respect and coordinate with other elites as it enables consumption of goods exclusive to consumers with certain abilities. This new class stratification on the basis of cultural capital creates a new social network, no longer built upon hereditary measures but instead elitist consumption choices. Compared to the business connections through family ties previously used by the upper class, this form of social network effect has a much bigger impact on society in terms of social mobility, since the prerequisite skills can be acquired as opposed to inherited wealth.

'The secret of change is to focus all your energy, not on fighting the old, but on building the new.' The emergence of the aspirational class has created a new consumption pattern that is increasingly pivoting away from traditional competition over conspicuous goods to more discreet consumption. From a microeconomic perspective, this phenomenon implies that individual utility maximisation depends on the environment and the individual's identity. From a broader perspective, the network effects could drastically affect labour markets, while changing consumption patterns could disrupt the balance of power in the luxury goods market. The high street should take heed.



Places

There's no place like home, probably because no one place is the same as the next. When reviewing change, one must consider how geography is taken into consideration and how policy and growth are affected.

In this section Sukanya Subramaniyan looks at the looming population crises in Eastern Europe, Isadora Dullaert investigates the EU approach to migration control in Africa, YuHin Chung revisits economic crisis and recent growth in Aberdeen and Julia Bauer looks back at German migration history.

Places

Less Is Less

Sukanya Subramaniyan looks at the looming population crisis in Eastern Europe.

In the midst of the impending doom of overpopulation and the decades-old presence of anti-population growth crusades, there is a strong trend of rapid population decline in Eastern Europe. Bulgaria comes in first, with a projected fall from 7.2mm to 5.2mm by 2050, with the next nine spots held by Central or Eastern European countries. Whilst nearly all of Europe is bedevilled by plummeting fertility rates and rising outmigration levels, Western and Southern Europe offset this imbalance by opening their doors to immigrants (and refugees, albeit reluctantly). Eastern Europe, however, has a staunch stance against immigration. The irony is that draconian measures towards migrants seem to arise from the countries that perhaps would benefit the most from an influx of manpower.

The Reign of the Elderly

In the last three decades, Bulgaria, Latvia and Moldova have lost over 20% of their populations. This demographic change can be attributed to stunted income levels, inadequate economic growth and an unyielding anti-immigrant sentiment. Compared to the average annual take-home pay among all EU nations of €17,311 in 2015, Eurostat figures indicate that the annual net earnings in Bulgaria are €2,904, and in Latvia, €4,634. It is no surprise the majority of the working population gravitates towards richer Western countries (notably the UK, France and the Netherlands) in search of bigger pay checks – in Bulgaria only 70 workers enter the labour market for every 100 that leave. The population is ageing also, as the pull of the West grows stronger amongst youth.

The Baltics, unlike other richer countries with ageing populations, are in no fiscal position to endure a dying workforce. Pensioner poverty, or the low-income status of individuals above the age of 65, is shocking: Estonia is at 46 %, with Latvia as a close second at 44%. Pension beneficiaries in Estonia, Latvia and Bulgaria account for over 30% of the total population. Social benefit programmes in these countries are at risk from an unsustainable growth in costs, due to a population that is getting both poorer and older. There is a clear need for a reconceptualization of migration policy. The question, however, is whether it is too politically toxic to be even considered.

Closed Doors

Not only do the former Soviet satellites dominate the chart for the fastest-falling populations, they also rank high in the list of countries with lowest acceptance rate for immigrants. In Latvia, polling agency Eurobarometer reported that 86% of citizens believe immigrants contribute nothing to the state. Hungary has accepted a sum total of zero refugees from the European refugee crisis whilst Vratsa, a city in Bulgaria, went as far as banning refugee centres, having had none in the past.

While office bearers use political opportunism and 'scaremongering' to harbour electoral support, the diminishing labour, income, and consumption levels as a result of this demographic decline signify a potential economic crisis. With fewer taxpayers in a falling population, Eastern European economies can no longer thrive by mortgaging their future through increased debt levels. It is growing progressively harder to finance public expenditure, leading to severe fiscal imbalances. Labour shortages in the market and poor career prospects are additional factors for the region's slow-motion implosion.

There is a striking need to develop a more proactive economic migration policy.

There is a striking need to develop a more proactive economic migration policy. Can the EU look to Canada and Australia in hopes of creating integrative cultures and attractive labour markets that pull in both qualified and competitive migrants? Establishing legal pathways that allow immigrants to fill in labour gaps, even temporarily, can boost the economy. Potential fiscal contributions may arise from successful integration of immigrants, such as tax contributions and increased business innovation. But what comes first – the chicken or the egg? Will greater channels for skilled migration encourage skilled populations to move to lower-income countries? Is better migration policy a precursor for economic growth, or is it the other way around?

Hope against Hope

If immigration policy, at this time, is a political hot potato for Eastern Europe, other policy measures can be considered, such as reducing the rate of emigration or increasing fertility levels. In fact, enticing emigrants to come back is evident: between 2015 and 2017, nearly 35,000 Bulgarians returned home. Some countries, such as Latvia, are trying to attract foreign investors with tax incentives and lax bureaucracy.

Such measures will clearly assist in decelerating the speed at which these populations are currently falling, but the trend of depopulation is not likely to be reversed by one or two policy changes. The economic case of immigration is rather compelling, but will it be used in Eastern Europe? Is the government preaching anti-immigrant sentiment to please its conservative voters, or is the government becoming increasingly conservative? The demographic crisis needs to be addressed by encouraging openness amongst the populations, while bringing in simultaneous changes in policy. It is optimistic, however, to think that immigration will do anything more than temporarily slowdown the demographic decline. The ticking depopulation time-bomb may go off nonetheless, but there will surely be far fewer people to suffer its consequences.

Fall and Rise of the Granite City

Jacob Chung explores the recent crisis and recovery of Aberdeen.

Aberdeen used to be the most important fishing centre in North of Scotland, as well as having a history of Granite quarrying for more than 300 years. These all gave way to oil and gas after what is known as the great North Sea Oil discovery. The 'black golds' were discovered in the Scottish North Sea in 1969, and in 1975 petroleum industry became the most fundamental part of Aberdeen's economy. Since then, Aberdeen has often been called the 'Oil Capital of Europe' and remained the most prosperous part of Scotland until 2014 - a year of crisis for the city. A tremendous downward shock in global oil price was accompanied by political instability. This resulted in high unemployment, collapse of property prices and a decrease in productivity – unemployed former oil workers left the city in disappointment. The dependency of the city on oil and gas made the situation severe. However, at the end of 2017, Aberdeen recovered in becoming one of the best performing cities in Scotland yet again, with the highest gross value added (GVA) per head in the nation. How did such a dramatic change happen?

People in Aberdeen believe they have passed the most difficult period, and the outlook is strongly positive

The 2014 crisis

The price of oil in Aberdeen dropped by 60% from 2013 to 2014. By 2016, the price had plummeted to about 32% of the 2013 price. In February 2016, the price of oil reached its lowest point, at about 28% of the 2013 price. This rapid deflation of Aberdeen's oil price is the epitome of a global oil price shock.

At the beginning of 2010, growth of emerging economies (including China, India and Brazil) started to stagnate, consequently reducing demand for oil. Simultaneously, US and Canada decided to reduce their reliance on imported oil due to the high price. The two countries increased their effort to produce oil domestically, so the price of Aberdeen oil was reduced further.

In addition to lower demand, political instability also fueled the crisis. Both the threat of the second Scottish independence referendum and Brexit increased the risk of investing in Aberdeen, as the outcome of these votes could bring economic crisis to the city. The UK Treasury reported in 2013 that Scotland's banking system was unsustainable in itself, with too many assets to handle and not enough equity in case of a bank failure. Not to mention that several financial groups, including the Royal Bank of Scotland and Lloyds, claimed they would remove their headquarters from Scotland if Scottish independence were to occur. A study by the Centre for Cities estimated that Aberdeen would be the most susceptible city to a hard Brexit, with a 3.7% expected fall in GVA.

The labour market was the most affected part of Aberdeen´s economy. With reduced profits, European investors withdrew from Aberdeen's oil industry, ultimately leading to severe unemployment. In 2015, about 84,000 jobs in the oil sector vanished, while in 2016, 40,000 jobs were lost. Moreover, given the lack of alternative job opportunities, the former oil workers had no choice but to leave the city. It is estimated the city shrank by 15% during the crisis. Another important indicator of the crisis was the falling property prices, which fell by 21% at the start of 2017 compared to 2014.

Overall, Aberdeen's GVA growth reached its lowest point at almost -6% in 2014-2015, lower than the -3% during the financial crisis of 2008-2009, which highlights the severity of this crisis.

Aberdeen's Response: Diversification

The 2014 oil crisis was undoubtedly a disaster to Aberdeen's economy. However, the crisis was contained within oil-related industries. As the oil price dropped, a 'domino effect' was not triggered in other industries. Therefore, diversifying the focus of the economy towards other industries posed a viable solution to the problem. Since the oil industry was the sole pillar of the prosperous economy of Aberdeen, the diversification of the economy was a huge project. In 2015, a Regional Economic Strategy was made resulting in a £250mm Aberdeen City Region Deal issue - a result of a collective effort between Aberdeen Council, Aberdeenshire Council and the Opportunity North East (ONE). According to the Regional Economic Strategy, in addition to attempts to recover the oil industry, the assets (later realized by the Aberdeen City Region Deal) would be invested into the following areas: life sciences, renewable and alternative energy, food and drink, agriculture, and tourism.

The Agri-food and Nutrition hub for Innovation and the Bio-Therapeutics hub for Innovation were set up to execute diversification, which has since proven successful in all areas, except perhaps the tourism sector. The life science sector has attracted £425m in investments and funding, and contributed a total of £160m GVA over the last few years. The food and drink sector is currently employing 22,000 people, accounting for 25% of Scotland's primary agricultural output and about half of the fishing output. The renewable and alternative energy sector is still new, but already showing great potential. Although tourism did not contribute much to GVA growth, it could be due to tourism investments only showing effects in the long run. The major tourism projects such as the new Aberdeen Exhibition and Conference Centre just opened at end of 2018, and it takes time to attract visitors.

By the end of 2018, the unemployment rate in Aberdeen City and Aberdeenshire was reduced to 2.9%. House prices throughout the year have been mostly flat, suggesting an end to the crash of property prices. The GVA growth rate of Aberdeen has returned to positive values and achieved the highest and second (just after Glasgow) highest growth rate among Scottish cities in 2017 and 2018 respectively. Independent growth forecasts show that an average growth of 1.5% is expected to last until 2020, while the expected Scottish median is about 1.25%. According to the Aberdeen Economic Policy Panel Report, people in Aberdeen believe they have passed the most difficult period, and the outlook is strongly positive. Overall, Aberdeen's economy rises again from the edge of collapse and once again becomes one of the best performing economies in the UK.

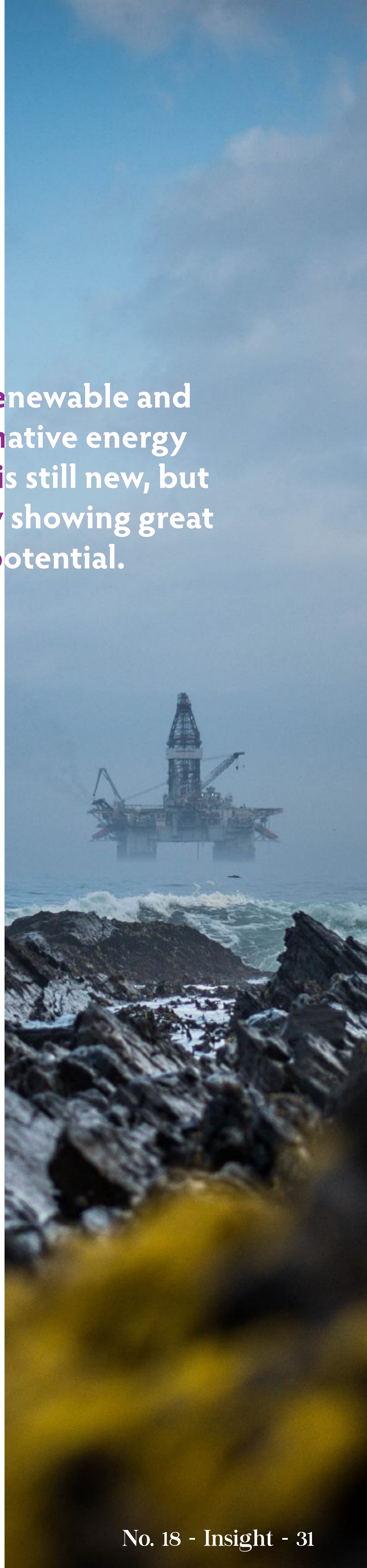
Reflection and Future

The 2014 crisis was undoubtedly a huge challenge for Aberdeen, yet it was also an opportunity as the North Sea oil reserve is starting to run out. It is estimated that North Sea production will start to decline after 2020, and if nothing is done, 'in 30 to 40 years' time we become a Museum of the oil and gas era,' according to the ONE homepage. While the oil crisis ravaged the economy, it created room for rethinking and restructuring of the economic system. Therefore, in a way, the crisis actually saved Aberdeen from the 'Museum scenario' - as ONE puts it.

The 'Museum scenario' is not specific to Aberdeen. Since oil is non-renewable, running out of reserves will be an issue facing all oil-based economies. Will successful diversification in Aberdeen be a good example for dealing with the situation? Probably not, since Aberdeen's success is due to its own advantages, which are not shared by oil-based economies in the Middle East. Scotland has a stable climate, and soils are relatively diverse for such a small country, which creates a good environment for agriculture. Middle Eastern countries, however, exhibit desert climates where irrigation is extremely expensive. Therefore, it is unlikely that they will be able to put their main focus of diversification on agriculture.

The renewable and alternative energy sector is still new, but already showing great potential.

On the other hand, life sciences industries and renewable energy development demand highly skilled workers. The North East is known for being one of the most educated areas in the UK, with two world-leading universities and Scotland's largest education college. This creates a tremendous amount of high skilled workers that could directly contribute to research and the development of new industries. Without such specific focus on development of specialized workers as a foundation, the research could be both much harder to begin and much more expensive for Middle Eastern countries. However, one thing to be noted is that Middle Eastern states have more time to prepare themselves than Aberdeen, as the region's oil reserves are still abundant. With growing profits from the oil industry, it is very likely that these oil-based economies will eventually work out alternative solutions, rather than entering the 'Museum Scenario.'



Places

The Cost of Moving Borders

Isadora Dullaert investigates the EU's new approach to migration control.

In response to the European refugee crisis, leaders have directed their attention towards building migration deals with so called 'third countries.' The apparent success of the (in)famous 2016 EU-Turkey deal bolstered efforts to pursue similar deals with other states. In February this year, the EU and the Arab League held their first-ever summit aimed at increasing cooperation on several areas of mutual interest, with migration at the top of the EU's wish list. At the press conference concluding the summit, European Council President Donald Tusk declared the two organisations agreed to work together on 'border control and the fight against irregular migration: we will scale up our joint efforts to prevent people smuggling, eradicate trafficking in human beings and combat those who exploit vulnerable people.'

While European leaders still struggle to formulate a common European asylum policy, they seem to have a much easier time agreeing on migration deals with third countries. It is, however, questionable whether such agreements will be sustainable in the long run: these new policies bring a wide array of new problems – and migrants often pay the price.

What is it About?

The polarised debate around migration often makes headlines. What is usually deemed less controversial is the current trend in migration policy: externalising border and migration control. Both the EU as a whole and individual European states have concluded border deals, offering third countries benefits such as trade facilitation, financial investments and development aid in return for their cooperation. For example, in 2017, Italy struck a deal with Libyan border and military forces, endorsed by the EU in the Malta Declaration. In return for pulling back migrants sailing for Italy, Libya received financial investments as well as training and equipment for its coastguard. Behind the scenes, the EU is working on more deals: during a summit in June 2018, European leaders agreed to focus on migrant 'processing centres' in countries such as Egypt, Libya, Algeria, Niger, Morocco and Tunisia.

Why are European leaders so intent on pursuing this kind of agreement? The 1951 Refugee Convention grants refugees the right to apply for asylum once they enter a state's territory. States are obliged to offer asylum and protection if a claim is legitimate, even if the refugee arrived in an illegal way. Border deals make it much harder to reach Europe in the first place, putting a stop to the asylum process before it even begins.

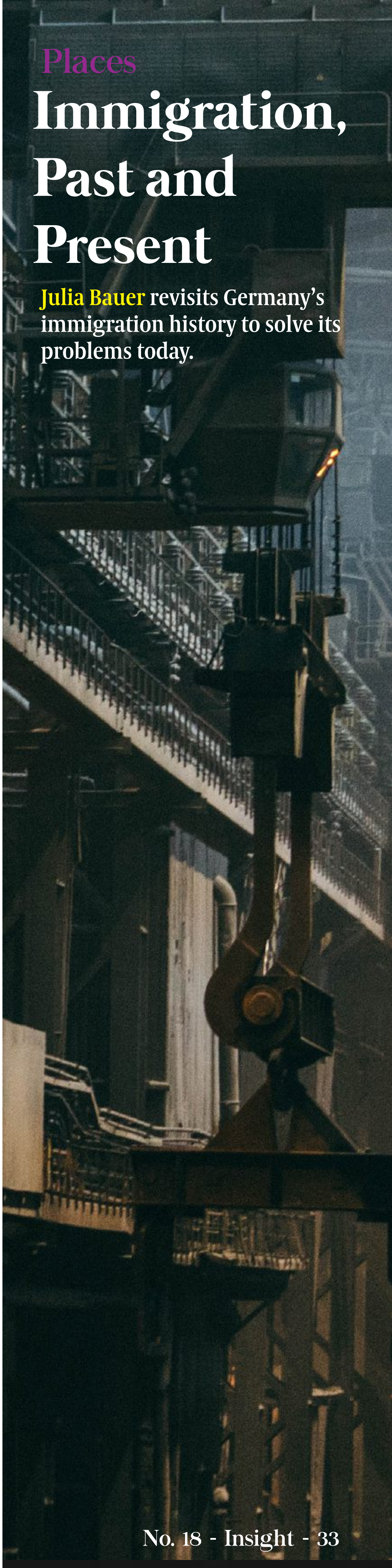
The (Im)balance of Power

Border deals have not gone uncontested. Critics have, for example, pointed to the lack of conditionality on how financial aid should be spent and are afraid that funds might end up in the hands of a small elite. Furthermore, the salience of the issue and economic disparities have led to opportunities, for both sides, to exert political and economic power. Some fear increasing dependence of African countries on the EU. The 2016 partnership cooperation between the EU and Mali was heavily contested by Malian society precisely for this reason. However, power imbalances work both ways. In the context of Europe's migration conflict and growing pressures on policymakers to reduce migrant numbers, some argue the agreements may leave the EU more vulnerable as partners can use migration as leverage to ask for more. Egypt, for instance, has been accused of using the closure of its maritime border as a bargaining chip in migration negotiations to request more funds from the IMF in 2016.

Solution or Problem?

This power play is a serious cause for concern for the migrants themselves. Migration deals have drastically reduced migrant arrivals with a serious human cost. In fact, many are concerned that the EU is financing regimes with questionable human rights records. The EU-Libya deal trapped thousands in a country largely controlled by local militias. It is estimated that tens of thousands of migrants are held in detention centres where they are subject to various forms of abuse ranging from sexual violence to slave trade. Consequently, migrants are looking for alternative routes to Europe. Many diverted to Morocco, where they are in danger of forced displacement. According to Amnesty International, some 5000 migrants, whose legal status had not been checked, were transported to abandoned areas last September.

As a result, border deals might actively contribute to the creation of conditions people will flee from in the future, and even if, as promised, the EU does invest in development, migrant numbers might not decline. The 'migration hump' research suggests economic development in low-income countries encourages rather than reduces migration. In other words, migration deals seem to offer a quick fix to Europe's troubles but might have the exact opposite effect in the future. Will today's answer become tomorrow's problem?



Places

Immigration, Past and Present

Julia Bauer revisits Germany's immigration history to solve its problems today.

There is an old saying in Germany's Ruhr Area: "[we] find beauty in things others would not even bother searching in." This unique mentality can be used as a starting point to understand the Ruhr Area's history of economics and migration.

For the last century, the Ruhr Area has been a key driver of Germany's economy, in large part due to its coal deposits and steel industry. It is also historically a major hub for migration from all across Europe. The current wave of migration, brought on political refugees from all over the world, is bringing new challenges - which the area must recognise and adapt to if it is to endure. Looking to the past, however, the Ruhr Area can take note on how to resolve the modern generational challenges.

Why the Ruhr Area?

Traditional German innovation has always been a key draw to the Ruhr Area– the first big wave of migration to the area came in light of the industrial revolution, when workers from Poland, Italy, and Turkey relocated in search of informal labour. As a consequence, the population increased tenfold between 1850 and 1910, cumulating to about 3 million - with more than a sixth being of Polish Origin. The benefits of this were a growing labour force, a key driving force of its economic growth and prosperity. Immigrants were the backbone of this newly emerging society, united by their common background. However, the Ruhr Area was never truly a "melting pot" – cultural differences remained and Polish migrants in particular were often met with discrimination and prejudice.

Waves of migration since the 1960s, however, have been more sudden and concentrated than the historical consistent stream. In particular, the fall of the Soviet Union in 1990, and the following opening of the borders – as well as political conflicts in West Asia and Sub-Saharan Africa in the 21st century – contributed to the phenomenon by creating huge swathes of displaced peoples.

Now and Then

The difference between these two waves, however, is that in the 1960s, the region was still in the process of overcoming the structural change of the declining social industry. The region was suffering from an unemployment average of ten per cent – three times higher than the national average. Consequently, the labour market struggled to accommodate the refugees that arrived in the area, and as a result, social tensions were much more noticeable. The unemployment rate created a mass feeling of dissociation and alienation from German society.

In contrast, waves of migration in the late 1800s, whilst bringing some social issues, were supported by ideal economic conditions which allowed a higher level of integration – and perhaps respect for migrants who were contributing so significantly to growth.

Nevertheless, a lack of economic help may be offset by strong social institutions. Many more integration initiatives now exist in schools, the workplaces and social sector. Germany has gone through much demographic change in the 21st century and faces an aging and shrinking population – it relies on migration to conquer the growing skills shortage and shrinking labour force, which has led to an outpouring of investment for social institutions.

Essentially, migration is not a uniform issue with an inevitable outcome; it is highly dependent on the area and its level of development. A developing area is ideal – locals and immigrants alike benefit and integration, whilst not easy, is certainly simpler. However, once the labour demand is satisfied and the main source of profit (in this case the coal mining industry) collapses, the growing stream of migrants imposes a huge financial and developmental burden on an area, and can startle its development. In the 1800s, migration was a key aid to economic development – now it is a social issue to be mitigated.

Solving Today's Issues

The Ruhr Area was once regarded to be a prosperous and productive area. Now, however, it is going through some difficulties compared to the national average. For instance, the Ruhr Area had an unemployment rate of 9.1% in 2018, whilst the German average was around 3.5%. Solving the crisis of the labour market and reducing unemployment, as well as finding a sustainable way to integrate the staggering number of migrants, will be key in returning to former glory.

Initiatives already exist, it is simply a case of effectively introducing them. Agendas like 'IBA Emscherpark' or 'agenda.RUHR' aim to further develop the area, focusing on improving the image and tourism numbers and creating new jobs in future-oriented branches, as well as easing social tensions. The key thing to remember, however, is that economic prosperity – or at the very least, stability – is an essential element of easing any migration troubles. The road ahead is undeniably difficult, but it is the way of the Ruhr Area, of course, to find the 'beauty' in challenges that might seem impossible.

John Moore
Evil is the Root of all Money

Stian Sandberg discusses the highlights of the School of Economics' 10-year anniversary lecture by John Moore.

In celebration of the Edinburgh School of Economics' 10-year anniversary, they have launched a series of events called 'an evening with', where prominent members of the school give special lectures to economics students at Edinburgh. To kick-start this series off, the first speaker was none other than renowned economist John Moore.

Bankers and Dentists

John Moore's lecture titled 'Evil is the Root of all Money', was never previously given to students at Edinburgh and showcases one of Moore's unpublished ideas that he developed in the early 2000's alongside his colleague Nobuhiro Kiyotaki at the London School of Economics.

Moore began by questioning a concept that we, as consumers or producers, might take entirely for granted, but nevertheless poses several interesting economic questions: money. What is the point of money? For an economist, money seems like a redundant tool to facilitate trade, as classical theories praise the role of perfect competition. In such a world, money is simply not necessary, as every trade happens perfectly without any frictions. The real world, however, does not always work like this and no economics degree is required to draw this conclusion.

This is where Moore and Kiyotaki's work comes to play. In a world of trade frictions, Moore describes money analogously to the flow of blood in the body, and just as blood plays a central role in describing the body, money should play a central role in the economy as well. Moore describes this eloquently in his lecture. Imagine you are to pay the dentist for her services, however you find yourself in the unfortunate position of having zero money in your account, so you pay the dentist by debit card. By going into your overdraft, you now owe money to the bank, and the bank owes money to the dentist. Now, you might ask, why not just issue a paper to the dentist yourself, stating you are in debt to her? Why involve the bank? The answer is simple, and it reaches the core of the lecture: trust. Evil, as Moore puts it, is characterised as the lack of trust, and thus money emerges as a driving force in the economy in order to facilitate the situation The dentist would never be able to use the paper I issue her to purchase new goods and services, because who would ever trust me to pay her back? If she then gave that paper to the man who sells her shoes, he would proceed to laugh in her face. He would, however, trust the bank and thus money emerges as a by-product of evil.

Moore illustrated this concept via the cunning use of different coloured arrows, going up and down in an aeroplane like fashion. He asked us to view the problem in a simplified manner, spanning three days and three different agents: the principal, the provost, and the professor. These three agents all have investment projects that take off one day, and lands two days later with more money than when it took off. What is nice about this trio of eager entrepreneurs, is that one project always lands when another project takes flight, meaning in theory funds are always available for use. But the issue still remains that none of these agents trust each other, so they cannot be certain that they will get their money back. They can, however, assume that the first project has some sort of collateral value; some physical assets that could be sold should the project fail. This means that a central actor can commit to paying back the loan even in the event of a failure, and thus emerges what can be thought of as a banker. This banker facilitates trust within the economy and allows the 'blood' to flow.

Some Things Never Change

Moore and Kiyotaki's work is elegant and, in our post 2008 financial crisis world, more relevant than ever before. In an economy that is inherently based on the lack of trust in other agents in the economy, it is no wonder we find ourselves in situations like the Great Recession. As this issue of Insight has presented, change is prominent throughout the economy, but one thing remains constant as well: human beings. If a lack of trust is causing the flow of money through the economy, then perhaps recessions like the 2008 financial crisis are not rare events, but a natural externality expected to occur.

Whether you are a first-year undergraduate student, or a fourth-year considering postgraduate education, Moore's lecture provided insights into a matter often overlooked in classical economics lectures. It sure helps that Moore is the kind of speaker that can make any topic interesting, and his words were a worthy start to the celebration of the School of Economics' 10-year anniversary.

University of Edinburgh Economics Society
Year In Review
2018/2019

Fresher's Barbecue

The year was kicked off with the freshers week barbecue and pub crawl.

Inisght Launch

Insight Magazine produced another great issue on the topic of global trade.

Econ FC

This year saw the start of many branches of EconSoc including the Investment Banking Club as well as Economics FC.

Amsterdam Trip

The Economics Society trip took 40 people to Amsterdam this year for a four day social.

EconWomen Pizza Night

Econ Women has had a fantastic year organising successful speakers as well as popular socials .

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